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now living; as for instance my friends the pandits in the Court of Sudr Udalut. They are Telugu Bramins and during more than fifteen years have given me much literary assistance. Well aware that my statements will incur the reproaches of many a half educated Sastri and self-styled pandit, I am happy in mentioning men of such well known talents (I might easily adduce many others also) as disapproving these follies.

61. Again:—It is acknowledged that the regulations and acts of Government are very ably translated into Telugu—yet they are wholly free from all these elegancies of style (bandi-repha, ardha-bindu, sandi, and saral-adesam) which poor pretenders to learning timidly cultivate. If such pedants are right, then the laws of the Government are written in bad Telugu; because, according to their notions, nothing can be correct which is easy to read.

62. When it is considered that the reader's progress is greatly impeded by the refinements I have described I shall appear justified in giving so much space to remarks which cannot be generally interesting.

On re-perusing the present essay I observe with much regret how little advantage we can derive from the historians (so to call them) and popular grammarians. With a few rare exceptions in the former class, these are *all* unavailable to the Englishman. But if he wishes to read the language in its perfection, to know it as the natives know it, he must resort to the *Musarum chorus*, the "Cavyamul" or favourite bards: of whose popular works I propose to give a summary in the next essay.

In that paper some selections will be given from poets already named: but in the present pages I have endeavoured to compress all that preliminary information which the reader will most frequently require: what remains, may be of slighter moment.

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III.—*Catalogue of the Birds of the Peninsula of India, arranged according to the modern system of Classification; with brief Notes on their Habits and Geographical distribution, and description of new, doubtful and imperfectly described Species.*—By T. C. JERDON, Assistant Surgeon, 2d Madras Light Cavalry.

Until a very few years ago we did not possess a single collective account of the birds of this vast country. In 1831 a Catalogue of birds collected on the banks of the Ganges and the Vindhian range of mountains by Major Franklin, was published in that useful compendium the Proceedings of the Zoological Society of London. This comprised 156 species, of which more than 20 were described for the first time, many of them very common birds, as *Otus Bengaleusis*, *Thimalia Chataræa*, *Alauda Gulgula*, *Mirafra phœnicura*, &c. &c. Notwithstanding the difference of latitude in which these were collected, there are only 6 or 7 which I have not met with in Southern India, which shews the very great similarity of the ornithology of this country throughout. In 1832 a catalogue of birds collected by Colonel Sykes in the Bombay presidency was published, in the same work as the last. In this are enumerated 226 species (I omit the domestic birds included), of which above 40 are described for the first time, many of them common and abundant birds. This catalogue is undoubtedly the most valuable account of the birds of India published, and contains, in addition to the bare catalogue and descriptions, many highly interesting observations on the habits, food and structure of many of the species there mentioned. Of those enumerated by Colonel Sykes there are about 9 or 10 which I have not yet observed, most of which are probably peculiar to the more northern portion of the range of ghauts and neighbouring tableland. During the short period I have been in this country I have traversed a considerable portion of the Madras presidency, both on the eastern and western sides of the Peninsula, and have been fortunate enough to add a considerable number of species to the Indian Fauna, a few of which are apparently new to science or but imperfectly known. The total number of my catalogue is nearly 390; which, however includes those 10 of Sykes, not hitherto obtained by me, and nearly as many more observed by Walter Elliot, Esq.,* Madras Civil Service, who has kindly placed his valuable notes on the birds procured by him at my disposal; by which, in addition to the new species added, I have been enabled to elucidate several doubtful points, to add some most

* Mr. Elliot saw this catalogue previous to its submission to press; and some remarks of his will be found as foot-notes, bearing his initials, throughout the paper.—EDITOR.

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interesting information on various birds, and to give the correct native names of most of the species enumerated by him.

I must here say a few words in explanation of the limits of the districts alluded to in the following catalogue as the "habitat" of the different birds. With reference then to physical features and the geographical distribution of the birds, I divide the Peninsula into four great districts or divisions—1st, The Northern Circars—2d, The Carnatic—3d, The Western Coast—4th, The great central table-land.

1st. *The Northern Circars*.—This district comprises a narrow tract of land extending (between 16° and 20° N. lat.) from the sea coast on the eastern side of the Peninsula to the eastern ghauts by which it is separated from the great table-land. It is a tolerably level district, with occasional spurs from the ghauts approaching the sea coast; has little or no natural wood, except towards the ghauts, the sides of which are in some places clad with thick jungle of bamboos and forest trees, and, with the exception of large groves of palm trees, has but little wood throughout it. This district is perhaps hardly separable from the Carnatic by its physical features alone, but the difference of latitude, causing a change in climate and a greater variation of temperature, perhaps authorize its separation, which is partly confirmed by the fact of one or two birds common in the one, being rare or not met with in the other district.

2d. *Carnatic*.—Under this head is included the whole of the country lying south of the Northern Circars, along the coast as far as Cape Comorin, and bounded on the west by the range of eastern ghauts, except in the Coimbatore district, where the eastern as well as western range of ghauts is broken. It has but little natural wood, except partially on the sides of the ghauts and occasionally at their bottom; is a level and low lying country, with occasional isolated rocky hills, and low ranges, sometimes bare, in other places clad with low brushwood. In the immediate neighbourhood of the large towns and villages there are large topes, and many of the roads are lined with magnificent avenues of banian and other large trees.

3d. *Western Coast*.—This includes Travancore, Cochin, and Malabar, and comprises a strip of land of various width lying between the sea on the western side of India, and the range of western ghauts which it includes. It is mostly undulating or hilly, and, unlike the other three districts, is almost every where covered with jungle of every description, from low bushes to the most lofty forest trees: most of the roads here too are lined with splendid avenues of banian, cashew and various other fine trees. The climate is moist and comparatively cool.

The Wynaad district, and generally the wooded parts bordering the summit of the ghauts, may be also included in this, which they resemble in climate and productions, though more correctly they belong to the next division.

4th. *The Great Central Table Land*.—This includes Mysore, the Baramahl, the Ceded Districts (Bellary and Cuddapah), the kingdoms of Berar and Hyderabad, the Southern Mahratta country, and the Deccan (the four so called Bombay Collectories, Colonel Sykes's district). The whole of these countries, with the exception of the parts immediately bordering on the ghauts, consists of a vast undulating plain of various height, almost entirely devoid of trees, except close to villages and towns, and with but little low jungle even. Here and there low ranges of hills appear, and isolated rocks, or droogs, mostly bare, others covered with low brushwood. Towards the north and west large steps occur, and the country is more broken by hills and ravines than in the southern part. Here too we have greater abundance of low jungle, and even stunted trees, and in many of the ravines wood abounds. Considerable tracts of long grass, or 'rumnahs' occur here and there, especially towards the more northern portion. The whole of this district was formerly named the Deccan, and accordingly in the following catalogue I shall indiscriminately mention it as the Deccan or table-land, except when a bird is peculiar to, or more abundant in, one portion of it than another. The Neilgherries are justly entitled perhaps to a separate mention, as well from their climate as their productions, and probably approaching them in these respects are the Pulny and Annamly hills, both to the southward.

The classification I have adopted is that of Swainson (as recently given in his most admirable treatise on birds*, which I have ever found most natural as regards the habits of the Indian birds he has classed together, especially the *Brachypodinae* and *Crateropodinae*. Among other instances, where, by his acumen and discrimination, he has rightly located, from their external character alone, birds before his time most improperly and unnaturally placed, I may instance *Thamnobia* (an *Ixos* of former authors!) and *Gryllivora* among the *Stone-chats*; *Hypsepetes* among the *Bulbuls*; *Pomatorhinus* among the *Babblers*; *Coracias* in the *Fissirostres*, and *Phænicopterus* among the *Anatinae*; and I am happy to be able by personal observation of their

* *The Natural History and Classification of Birds*.—By WILLIAM SWAINSON, vols. 1st and 2d—*Lardner's Cabinet Cyclopædia*.

habits to confirm his views as to their natural situation. If in some parts his classification is deficient, it is from want of material alone, as in the *Raptore*s generally, and the *Strigidæ* in particular. Here, however, fortunately important aid has been derived from another quarter, viz. from the accomplished Mr. Hodgson, Resident at the Court of Nepal—who, in the papers he has published in the Indian periodicals, has shewn that he combines the greatest talent for minute observation of peculiarities of habits and manners with most critical skill in the more abstruse and scientific art of classifying, to whom we may hereafter confidently look for filling up many of the outlines and deficiencies of Swainson's system, and whose promised work on the Fauna of Nepal is so anxiously expected.*

It only requires for me to add that in the following catalogue the length is reckoned in all cases from the tip of the bill, and when the length of a toe is mentioned, it includes the claw also, unless the contrary is particularly mentioned.

The following abbreviations are used in reference to the native names :—

H. Hindustani.
Can. Canarese.
Mah. Mahratta.
Mal. Malyalum.

ORDER I. RAPTORES.

FAMILY VULTURIDÆ.

GENUS VULTUR.—Auct. *Vulture*.

The species of this genus may be speedily collected on exposing a carcass on the open plain, though none were previously in sight. They are readily distinguished in the air by their manner of soaring with wings turned obliquely upwards.

1. *V. Indicus*, Lath.—Temm. P. C. 26.—*Geedh*, H.—*Mahah-Dhoh* of Mahrattas. Large brown Vulture.

2. *V. Bengalensis*.—Gmel.—Gray and Hardwicke Ill. Ind. Zool.—*V. Cinereus*, Temm. var.—*V. leuconotos*, Gray and Hardw.—Old Bird ?—*Geedh*, H.—Small brown Vulture.

3. *V. Pondicerianus*, Lath.—*Rung Geedh*, H.—Black Vulture.

* See *Literary and Scientific Intelligence*, at the end of this Journal.—EDITOR.

Colonel Sykes correctly says of this bird 'mostly solitary.' Two or three may however frequently be found hunting together over high rocky and bushy hills. On the Neilgherries I have seen flocks of twenty or thirty of what I conceived to be this species hunting in company over the hills, occasionally reconnoitering some spot where something unusual attracted their attention, and circling over it for some time—and then pursuing their onward course. As I did not procure a specimen, this may be a distinct species, perhaps the allied one 'auricularis' or social vulture, which is stated in some works to occur in India.

GENUS NEOPHRON, Sav.

4. *N. Percnopterus*, Sav.—*Kul-moorgh*, H.—Dung bird—Scavenger.—White Vulture.

Very common; most numerous in cantonments and large villages, where it is of the greatest utility. As Colonel Sykes remarks, 'they are most efficient scavengers.'

FAMILY FALCONIDÆ.

SUB FAMILY AQUILINÆ.—*Eagles*.

GENUS PANDION, Sav.—*Fish-Eagle*, or *Fish-Hawk*.

5. *P. Haliæetus*, Sav.—*A. Haliæetus*, L.—*Mucharera*, H.—Osprey.

This bird appears to have been hitherto unrecorded as Indian, for in Yarrell's 'British Birds' and Sir W. Jardine's later work in the 'Naturalist's Library' there is no mention of its occurrence here, though its geographical distribution is particularly recorded. I have seen it on the Trichoor Lake, and near Ponany on the west coast, and a short time ago obtained a specimen as far inland as Jaulnah. My specimens correspond pretty exactly with the description of British ones. The pectoral band was distinct on all—Irides bright yellow.

6. *P. lineatus*?—*Hal. lineatus*, Gray?—*Pand. Indicus*, Hodgs.?

I several times observed a large Fishing Eagle on the Chilka lake, which at a short distance appeared of an uniform greyish green colour.

This may have been the species figured in Gray and Hardwicke's Illustrations, but I did not succeed in obtaining a specimen. I frequently saw it plunge completely under water (as the Osprey) and bear off a large fish in its talons to some neighbouring eminence.

SUB GENUS HALIÆTUS.—*Sea Eagle*.

7. *H. blagrus*, Less.—*F. blagrus*, Shaw.—*F. leucogaster*, Lath.—*Aigle Oceanique*, Temm. Pl. Col. 49.—*Grey backed Sea Eagle*.

The descriptions of this bird which I possess, are not very satisfactory, but I have no doubt it is the bird named as above in Lesson and Griffith's Cuvier. It is certainly not very common. I first observed it sailing over the Chilka lake, at a considerable elevation, from whence it made an unsuccessful swoop at a duck I shot. I again saw it at Ponany, sitting sluggishly on the sandy beach close to the sea, and again, near Calicut, saw a pair skimming very closely over some low bushy ground. The stomach of the specimen I procured was empty. The fishermen at Ponany assert that it lives chiefly on fish, and frequently carries one off from their boats or nets. It doubtless, however, varies its food according to opportunity, and like its European analogue the *H. albicilla*, nothing may come amiss to it. Its flight at first after rising is heavy, but when once fairly on the wing easy and powerful, rising to a great height by large and graceful sweeps. It agrees exactly with the characters of *Haliæetus* as lately defined by Yarrell and Hodgson. This sub-genus, though not admitted by Swainson, appears necessary to join *Aquila* and *Pandion* and may perhaps be marked as a sub-genus of the latter, leaning towards it by its roughish soles, length of wings, which reach beyond the tail, and festooned upper mandible. I add a brief description of my specimen. Back and wings light blueish grey, occasionally tinted with brownish ash. Quills and tail brownish black, the latter broadly margined with white—rest of the body pure white; feathers of head and neck acuminate; bill, horn colour; cere, yellowish; legs, dirty yellowish-white; irides, brownish yellow. Length about 30 inches, wing to end of 3d quill 24 inches, tail 10 inches, tarsus $3\frac{1}{2}$, middle toe and claw 4.

8. *H. Ichthyætus*, Horsf.

I have not myself observed this species of marine Eagle, but it was obtained by Mr. Elliot, in the Southern Mahratta country. It is said to live upon fish, but not solely: in one specimen there was the

skin of a bird. Its talons are rounded like those of the Osprey. Bill strongly toothed; it and cere black; legs dirty whitish; irides, brown. Length of a male bird $27\frac{1}{2}$ inch, tarsus $3\frac{1}{2}$ inch.

GENUS AQUILA.—*Eagle*.

9. *A. Chrysætos*—*Golden Eagle*.—*Joomiz* or *Joombiz*, H.

I several times observed birds of this species, both single and in pairs, in the more northern parts of the Deccan, many of which shewed the white mark at the base of the tail, which gained for it the name of ringtailed Eagle, and I procured a specimen near the Godavery river. I frequently also see them near Jaulnah, even close to the cantonment, and they are occasionally seen to pursue and strike at hares, florikin and other game started by sportsmen. This Eagle may generally be seen seated on the ground, or on a stone on the rocky hills, in the neighbourhood of Jaulnah, whence, after the sun has been up for some time, it takes a flight in search of prey, at no great elevation, hunting slowly over the bushy valleys and ravines, and also over the cultivated ground occasionally, after which if unsuccessful in its search, it reseats itself on a stone on some eminence, or even perches on a neighbouring tree, where it patiently waits till some quarry is raised or viewed, or till hunger again prompts it to take a flight. I obtained a specimen alive some time ago, it having been slightly wounded, and it is now in my possession, in perfect health. It feeds most greedily on raw meat, preferring it to birds or animals either dead or living. It is very sluggish and inactive even when urged by hunger. It generally drinks a gulp or two of water after eating. The only cry I have heard it utter is a harsh croaking. I shall now for the sake of comparison add a brief description of this bird, which exactly corresponds in plumage with the other specimen I shot.

Upper part of head and neck, pale buff cream colour, some of the feathers on the forehead broadly streaked with dark brown, and a few other detached ones entirely of an orange buff colour. Quills nearly black, tail of a dark hoary grey, barred and clouded with blackish, and broadly terminated by the same colour. Under tail coverts pale brownish white, all the rest of the body of a rich glossy dark brown, tinged on spots with lighter brown; on the scapulars, there are one or two white feathers, and one or two more edged by the same colour. Cere and legs, yellow, with a tinge of green. Irises, brownish yellow. Length about 3 feet, wings to end of 4th quill 26 inches, tail 13, tarsus about 4, middle toe and claw $3\text{--}1\frac{6}{10}$ ths. On the internal and middle toe there are 4 large scales each, and the division between the large scales and the smaller ones, is not nearly so marked as is represented in the woodcut in

Yarrell's British Birds; this, however, may depend on age. Another slight difference from the description of the European bird is, that the nostrils are almost quite transverse, and do not point so much backward as is represented both in plates and descriptions.

10.—*A. bifasciata*, Gray & Hardw.—*Double banded-Eagle*.

I have only seen this Eagle two or three times close to Jaulnah, but have hitherto failed to procure a specimen. One was lately seen to strike at a florikin.

11.—*A. Vindhiana*, Frankl.—*A. punctata*, Gray ?—*A. fusca*, Gray ?—*A. fulvescens*, Gray ?—*Wokhab*, H.—*Lesser Indian Eagle*.—*Mottled or variable Eagle*.

I possess a living specimen of an Eagle which corresponds as nearly as possible with the description by Franklin of *A. Vindhiana* in his catalogue; and I also possess specimens which have so great a resemblance to the three Eagles, figured as distinct in Gray and Hardwicke's *Illustrations of Indian Zoology*, as to warrant a conjecture that they are one and the same species. In this conjecture I am strengthened by finding that such is also the opinion of Mr. Elliot.

I shall here briefly describe some of my specimens to show their similarity:—1st, one resembling *A. fulvescens*, Gray, which I consider as the youngest state of this Eagle. Head and neck of a fulvous orange colour. Quills and greater coverts blackish brown, the latter edged with pale greyish. Tail greyish brown, much barred with blackish. Rest of the body of a light brownish grey, with a strong tinge of fulvous yellow throughout, the feathers of the lower parts streaked in the centre with darkish brown.

A second specimen has nearly cast off the whole of the light fulvous colour, which only appears on the feathers of the abdomen and under tail coverts, a feather sometimes being dark brown on one side of the shaft, and fulvous on the other, but specks and streaks of this yellow appear in many parts, especially on the head, back of neck, and breast, as in *A. punctata*.

A third specimen is nearly of an uniform brown colour. In the living bird, the head, throat and breast are of a very deep brown, almost black; and this, though an old bird, is yet evidently not in its perfect plumage. This bird varies in length from 25 (the male) to 28 or even 29 (the

fem.). In a female 28 inches long, the wings are 21 inches. Expansion of do. about 5 feet. Tail 11 inches. Tarsus 3; mid toe and claw 3. Cere deep yellow. Feet a little paler do. Irides hazel brown. The *Wokhab* is the most abundant Eagle in India. I have seen it both in the Carnatic, though more rarely, and on the table-land, where it is tolerably common. In the Carnatic it chiefly frequents hilly districts clad with low jungle. In the Deccan it frequents, by preference, the cultivated lands near villages. Till an hour or two after sunrise, it may be seen seated on the top of some tree, after which it sallies forth, sailing about at a moderate height in general (though it varies much in this respect) over the fields, valleys, and ravines, with a slow and circling flight, or in company with the kites, like which it is ever on the look out; hovers over villages, towns and cantonments. They prey upon hares, (as I have ascertained, in one or two instances, from the contents of their stomach,) and other game; also rats, lizards, snakes and insects; occasionally also pounce on an unwary bird, and in fact feed upon almost any kind of food, living or dead, which, however, they obtain perhaps less by their own industry than by robbing other birds, kites, falcons, and other birds of prey. From Mr. Elliot's notes, I extract the following—"The *Wokhab* is very troublesome in hawking after the sun becomes hot, mistaking the jesses for some kind of prey and pouncing on the falcon to seize it. I have once or twice nearly lost *Shaheens* in consequence, they flying to great distances from fear of the *Wokhab*." The one I possess alive, is not very particular as to its food. It frequently snatches morsels from the golden Eagle kept with it, to which the latter in general quietly submits; is a very noisy bird, frequently uttering its shrill scream, and has a great share of curiosity, walking up to, and carefully and thoroughly examining every new comer I place in the same apartment. It is apparently a very easily domesticated bird, and perhaps might be taught to hunt hares, &c.*

II Aq.

? Neilgherry Eagle.

On the summit of the Neilgherries there is very frequently seen a black Eagle, larger than the *Wokhab*, but of which I was unable to procure a specimen. I have heard it is also often met with in Coorg.

*It is considered too slow and heavy for purposes of Falconry. I differ only with Mr. Jerdon in thinking the dark species (*Aq. fusca*, Gray), to be the young bird, which grows lighter by age, and becomes *A. flavescens* when old.—W. E.

GENUS NISAETUS, Hodgson.—*Hawk-eagle*.

12.—*N. niveus*?—*F. niveus*, Temm. P. C.—127?—*White bellied Hawk Eagle*.—*Mhorungah* or *Mhorungee*, H.

I presume, from the meagre descriptions I possess, that my specimen is identical with the *Javanese* bird, named as above by M. Temminck. It appears to belong to the new genus, which Mr. Hodgson has, I think, most justly separated and named very happily.* This species is not crested, but otherwise agrees exactly with the characters given, which are (among others) short high bill, short wings, rather long but nervous tarsus and immense feet and claws. M. Lesson, I see, has ranged this bird as a *Spizaetus*, which however is remarkable for its small feet.

The *Mhorungah* is certainly a rare bird in Southern India. I have only seen it twice, once in the Baramahl, seated on the edge of a tank in the neighbourhood of a jungly district, and again a pair seated on a lofty tree, in a tope in open country in the northern part of the Deccan. I know nothing of its habits or food from personal observation. Mr. Hodgson says the habits of the genus are as follows: "Preys on jungle fowl, partridges, hares—watches from a lofty perch, usually pouncing on its game when near it—sometimes pursues with energy on the wing." Mr. Elliot met it occasionally in the Southern Mahratta country, and from his notes I extract the following observations: "Is the noblest of the Indian Eagles, being seldom seen, and then generally at a great height in the air, in wild and savage places. It preys on the hare—I once saw a pair of them hunting in company, which nearly surprised a peacock, pouncing on him on the ground." I suppose it is more an inhabitant of jungly and wooded districts than of the open plain, as are the true Eagles. I add here, a brief description of my specimen:—Above, hair brown, most of the feathers edged with a lighter tint, and some white about the head and sides of neck. Below, pure white, feathers narrowly streaked in the centre with dark brown—feathers of leg and tarsus, thickly barred with pale fawn brown. Bill of a greenish horn colour. Cere and legs greenish yellow. Irides bright yellow. Length 27 inches—wings 19—tail $10\frac{1}{2}$ — $2\frac{1}{2}$ inches beyond wing—tarsus $3\frac{1}{2}$ —middle toe $3\frac{1}{5}$ ths of an inch. Eyebrows prominent.

GENUS CIRCAETUS.—Vieill.

Harrier-eagle—*Serpent-eagle*.

* *Journal, Asiatic Society, Bengal* No. 65,

13—*C. brachydactylus*.—*A. brachydactyla*, Meger. White bellied Harrier Eagle or Serpent-Eagle—*Samp-mar*, H.—*Mulpatur*, Can.

This species is very generally spread over the country. It affects chiefly the open plains and patches of cultivated ground. It may frequently be observed perched on a low tree, or even a bowrie pole, or seated on the bank of a river, whence it occasionally darts upon its quarry, but generally takes a long and lofty circling flight, or flies heavily along, but a few yards above the ground. The most favourite food of the *samp-mar* is, as its Indian name implies, snakes. It will, however, take other food. Colonel Sykes found a rat in the stomach of one. I saw one strike at a wounded hare, and another make a swoop at a teal that was shot. From Mr. Elliot's notes I take the following:—"Pounces on snakes and guanas—my *meer shikar* has seen them on the ground with their claws on the snake's head, its body coiled round the bird's wings, in which state the herd-boys sometimes kill them. The Yerklees say it has a figure of the God's *chukram* under each wing, by which it prevents the snake going forward. In the stomach of one I found a snake, about 2 feet long, and a centipede."

Irides, orange yellow. Legs, pale and dirty yellow. Length of a female 30 inches—of wings to end of 4th quill 23—tail 12—tarsus 4—middle toe 3—outer and inner toes, without the claws, nearly equal.

14—*C. ? undulatus*.—*Hæmatornis undulatus*, Vig.—Gould, Cent. Him. Birds.—*Goom-can-mooryala*, Mah.—*Crested Serpent-Eagle*.

As I see Mr. Swainson has claimed the priority of the name *Hæmatornis* for his crested buibuls, I have at present, though with hesitation, retained this species under the genus *Circætes*, to which it is evidently strongly allied in parts of its structure (more especially its legs and feet) as well as in habits and food, and of which it will probably be found hereafter to form a sub-genus. I have found it in Goomsoor, Travancore, Malabar, and the Baramabl. It almost always affects woody situations, preferring lofty jungle, over which it may often be observed slowly sailing, or seated on a lofty tree, watching for its prey. Its chief food is snakes, which I have found in every instance that came under my observation. Mr. Elliot says "utters a plaintive cry, feeds on insects, lizards and snakes."

Length of male 24 to 26 inches, of female 28 to 30. Of a female 28 inches long, the wings were 17, tail $10\frac{1}{2}$, tarsus $3\frac{1}{4}$, middle toe $2\frac{3}{4}$, tail 2 inches longer than the wing.

SUB FAMILY CYMINDINÆ, Sav.—*True Kites.*

GENUS ELANUS, Sav.

15. *E. melanopterus*.—*Kupāsee*, H.—*Blackwing*, Hodgs.

Though very generally spread over India, this kite is by no means common. It is most frequent in woody districts. Its general food is insects (chiefly grasshoppers and locusts), lizards and mice. I shot one in Goomsoor, which was devouring the carcass of a dove; this, however, appeared to have been dead for some time, and I doubt if it was killed by the blackwing. The *Kupāsee* often frequents long grass and grain fields, over which it may be seen to hover like the *Kestrel*. It is comparatively rare in the Deccan, owing to the country being so devoid of trees. For a full account of this bird, its habits, &c. and accurate measurements, *vide* a paper in this Journal No. 16 by Mr. Hodgson. Irides fine crimson. Legs deep yellow, peculiarly soft and gummy.

SUB FAMILY BUTEONINÆ—*Buzzards and Harriers, &c.*

GENUS MILVUS, Auct.

16. *M. Cheele*.—*M. Govinda*, Sykes.—*Cheel*, H.—*Common or Pariah Kite*.

This very useful bird is extremely numerous, more especially in cantonments, villages and camps, and is continually on the look out for refuse of every description. Colonel Sykes says "constantly soaring in the air in circles, watching an opportunity to dart upon a chicken, and upon refuse animal matter thrown from the cook-room." I rather think that the blame of carrying off chickens is, occasionally at least, unjustly attributed to this bird. *Vide postea, Spizæetus*. Away from cantonments, it preys chiefly on reptiles, is also remarkably fond of fish, both fresh and dried. Has a very shrill cry or squeal. Irides dark brown, bill black, yellow cere, legs yellow, anterior scales large and transverse, all the others small, irregular. Length 23 to 26 inches; of one 23 inches long the wings are 18, tail $10\frac{1}{2}$, tarsus 2, middle toe $2-1\frac{1}{4}$.

17. *M. pondicerianus*.—*Haliæetus pondicerianus*.—*Roo-mubarik* (Angl. happy face), *H.*—*vulgo*, *Bahmunee cheel*.—*Brahminy kite* of Europeans.

There is great dispute among naturalists, as to the true situation of this very common bird: most writers refer it to the genus *Haliæetus* or sea eagle. Swainson refers it to the *Accipitrinæ* or hawk family, but at the same time allows its near alliance to *Pandion*. Hodgson, the only writer who has observed it in its wild state (except Colonel Sykes who refers it to *Haliæetus*) calls it a paltry *milvine* bird, and says it should be placed as a *Buteo* or *Milvus*. With this opinion, I nearly agree, and accordingly place it for the present as a *Milvus*, of which, or of *Buteo*, it will probably be hereafter found to constitute a sub-genus. The greatest difference is, perhaps, the shape of the bill, and in the young bird, this is much less perceptible. Its manners, mode of life, &c., are certainly similar to those of the kite, being much on the wing, sailing over tanks, paddy fields, and rivers, at a moderate height, and with a flight like that of the kite, but perhaps with more frequent motion of its wings. Hodgson says it quests like *Circus*. This I have only seen in wooded country (in Travancore) and then its flight was higher and not nearly so regular. I may also remark that its squeal is very similar to that of the kite. Hodgson says, it lives chiefly on insects. Colonel Sykes says, it never feeds on carrion but always on fish (living). From my own observations, made chiefly in the Carnatic, where it is very abundant, I should say it prefers aquatic food. It may frequently be observed to carry off a fish from the surface of water, but I never saw it dip under, as Colonel Sykes relates. It also feeds much on crabs from tanks and paddy fields, also on frogs and various aquatic insects; and occasionally carries off a dead or wounded snipe, or other bird, and even carrion, and, it is also credibly said, young birds, chickens and pigeons, though I have not myself witnessed it. I have, though, very rarely, seen it whip an insect off a tree or standing grain: this, and its food generally, if not heavy, it often devours in the air, like the common kite, or seated on the edge of a tank, or river, or bank of a paddy field. It partakes very greedily of the small fish so generally dried by the poor on our coast, and I have repeatedly seen it catch one thrown up in the air for that purpose by a native. From this we must conclude that it varies its food, according to opportunity, but undoubtedly it prefers the neighbourhood of water, and aquatic food, as crabs, frogs and fish, when procurable. It is, as is well known, sacred to Vishnoo.

Length 18 to 22 inches—of one $18\frac{1}{2}$ inches long, the wings to 4th quill are 15 inches ; tail $8\frac{1}{4}$; tarsus and middle toe about equal, nearly 2 inches. Irides brown ; legs dirty yellow ; anterior scales large transverse—posterior smaller, in a double row—lateral scales small, bill greenish horn colour, whitish at tip ; cere greenish white.

GENUS PERNIS, Cuv.

Honey-buzzard—Shahutela, H.

18—*P. cristata*, Cuv.—*F. ptilorhynchus*, Temm.—*Crested Honey-buzzard*.

I have only met with this bird in the jungles of the Western Coast and Neilgherries. It is by no means common. I occasionally saw it seated on a tree, alternately raising and depressing its peculiarly formed crest, and on the Neilgherries frequently saw it questing diligently backwards and forwards over the dense woods there. I procured a female at the foot of the Conoor pass, and a male on the summit of the hills. Their usual flight is rather slow, but I once observed one flying much more rapidly than in general with a continued motion of its wings, and every now and then stopping and attempting to hover, which it did with its wings turned very obliquely upwards ; this seemed a great exertion to it and was very clumsily performed. In the stomach of the female I shot, was a soft green mass which looked like vegetable matter, but which was probably the half digested remains of green caterpillars. In the stomach of the male there was a large quantity of pure honey. (Mr. Elliot found the hair of a rat in the stomach of one—in another ants, wax, and honey). The female contained an egg ready for expulsion, which was very different in colour from that of the English honey-buzzard, recently figured in the 'Naturalist's Library,' and closely resembled that of the common European kite, also figured there.

As my specimens differ somewhat from the descriptions of this bird in Cuvier and Lesson, I shall briefly describe them. Female—colour of plumage pale brown ; lightest below and darkest on the scapulars and larger coverts ; the shafts of the feathers of head, neck and breast, dark brown ; an occipital crest of 3 or 4 deep brown oval feathers ; a few white blotches on the belly increasing in number towards the vent ; tail light greyish brown, numerously barred with deep brown, three of the bars being conspicuously broader than the others. Bill blackish blue colour ; legs and feet yellow ; irides bright yellow.

The male bird is throughout of an uniform dark clove brown, with rather less white about the belly and vent.

Length of male 24, of female 27 inches : of the latter the wings are 18 ; tail 11 ; tarsus $2\frac{1}{2}$; middle toe $3\frac{2}{10}$ ths ; outer and inner toes, without the claws, nearly equal. The irides of one of Mr. Elliot's specimens were blood red.

19.—*P. Elliotti*, Jameson's Edinburgh New Philosophical Journal (no description).

The following account of this new species of honey-buzzard, I take entirely from Mr. Elliot's notes, who met with it in the Southern Mah-ratta country, and took home specimens, which are deposited in the College Museum, Edinburgh, and in honour of whom it was named by Professor Jameson, of Edinburgh. I have never met with it.

Description.—Hind head considerably crested; colour above, brown, the crest and shades on the back very dark; head, neck, and middle coverts very pale, intermixed with white; ocular band dark brown; cheeks and beneath white; throat with a few brown lines; quills with darker bands on the inner webs; tail irregularly dark banded with 5 or 6 bands, edged with whitish, and passing into pale brown in the centre of the intermediate spaces; cere, legs and irides yellow; beak and talons black, the former paler at base. In another specimen the space in front of the eyes and a band below the eyes also were dark, and the tail had two broad dark bands near the base, and one near the tip, with between them about six narrow pale transverse stripes, also whitish extreme tip.*

Length of male about 2 feet; beak $1\frac{6}{10}$ ths of an inch to front; tail 10 inches, exceeding wings by $2\frac{1}{2}$ or 3 inches; tarsus $2\frac{3}{10}$ ths; middle toe 3; claw alone $\frac{9}{10}$ ths; bill strong bent with scarcely a festoon; claws strong, bent and channelled. In the stomach of one were some fragments of black ants, some hair, and what was supposed to be the rough skin of a monitor lizard; another had eaten honey, wax and bees.

* It differs entirely from the former in having a smaller crest, and being altogether of a light colour, and white beneath; the *Ptilorynchus* being nearly black, dotted with white beneath and under the wings, and the tail with fewer bands.—W. E.

GENUS SPIZAETUS, Vieill.—*Eagle buzzard*.20.—*S. milvoides*.—New species.?

Description.—Head and hind neck of a pale orange brown, the feathers lanceolate and streaked in centre with dark brown. Some of the feathers of the occiput entirely brown and elongated, showing that the bird has been probably crested (I did not see it in the fresh state); a narrow superciliary stripe, and a band from the angle of the mouth to the ears and chin, deep brown. Rest of the upper plumage of a sepia brown; middle coverts and some of the scapulars, broadly edged with whitish brown, causing a conspicuous broad light coloured mark on the wings, as in *B. teesa* and, though less conspicuously, in the *Milvus cheele*; tail darker, barred indistinctly on the inner web only. Beneath, dark reddish brown—palest on the feathers of the tarsi. Cere and nasal portion of the bill yellow—feet do. Bill small, bending from the base; cutting edge almost perfectly straight. Inner edge of the centre claw, dilated, as in *Pernis*. Feet short: length 23 inches; wings $16\frac{3}{4}$; tail beyond, 2; from base 9; tarsus $2\frac{1}{2}$, stout; mid. toe $2\frac{3}{4}$; three broad scales at the base of each claw, inner claw very large.

This is the bird alluded to, under the head of the common kite, as the one to which the blame of carrying off chickens, pigeons, &c. should, at all events from the accounts I received, be sometimes attributed. My attention was first called to this bird at Trichinopoly, by Mr. Hooper, C. S. who kindly gave me a specimen shot by himself in the act of pouncing on some of his pigeons. I occasionally afterwards recognised it, as I thought, among the kites, and saw it attempt to swoop off chickens and pigeons, though I failed in procuring a second specimen. Its appearance in the air and mode of flight much resemble that of the kite, but the crows appear to distinguish it readily, and often clamorously pursue it. I have not hitherto observed it elsewhere. I have given it provisionally the name of *Milvoides* from the general similarity of its markings, and its usual association with the common kite.

GENUS BUTEO.—Auct. *Buzzard*.21. *B. longipes*.—New species?—*F. albidus*?—*Temm. P. C.*—*Chooa mar*, H?—*Long legged buzzard*.

This bird, if a true species of buzzard, and hitherto undescribed, may be named as above, from its long tarsi, which evidently ally it to the Harri-

ers. It approaches somewhat to the description of *B. albidus*, Less. but that is said to be crested, and if so, is more probably a honey-buzzard.

Description.—I possess two specimens differing a good deal from each other, both of which I shall briefly describe.—The first has general ground tint of a yellowish brown, purest on the head, neck, throat and breast, most of the feathers are centred darker. On the back the tint is nearly lost by the prevalence of the darker shade, an edging of the lighter colour only being left; quills with outer web greyish, inner web blackish from tip to deep sinuosity; white beyond; tail reddish grey and indistinctly barred. Belly, vent, thigh, coverts, deep auburn brown; the line of demarcation between this and the lighter tint of the breast strongly and abruptly marked. Cere pale greenish yellow; irides yellow; legs dirty yellow; length 26 inches: wings $18\frac{1}{2}$: tail 10: tarsus nearly 4; mid toe $2\frac{1}{4}$.

My other specimen I at present possess alive, having only very slightly wounded it: its head, neck, throat, breast, and belly are white, streaked on some of the feathers with reddish brown; back, as in the other specimen, but rather lighter; tail with the outer webs reddish white; inner white, indistinctly and incompletely barred with darker; cere yellowish green; irides pale yellow. This is apparently the younger bird of the two.

This bird differs from the characters of *Buteo* in its higher bill and larger cere and nostrils. In these respects, as well as in its length of tarsus, it approaches the *Circi*, but has remarkably short though strong feet and claws, a robuster make, and different habits. Tarsus shielded anteriorly and posteriorly with large and well defined scales; toes only furnished at their extremity with large scales; outer and inner toes, without the claws, sub-equal: wings with 4th quill largest, reaching to end of tail, which is slightly rounded: four first quills much notched.

This is certainly a rare bird. I have hitherto only seen it near Jaulnah, perched on low trees or on the ground, in fields, or near water, and taking a low and short flight to another similar perch. In the stomach of the specimen I shot there was a *Gryllotalpa*. Mr. Elliot, who met with this species only in Guzrat, says, "This bird evidently preys on the field rats which abound in the sandy soil of this province. He is seen sitting on low trees or bushes, over the rat burrows, and, watching his opportunity, darts down on his victim. In the stomach of one were the exuviae of a rat (*Arvicola*) and a large beetle." He also says, "eyebrows very prominent; large eye: full pupil; irides pale dun."

22—*B. teesa*, Gray.—*Circus teesa*, Frankl.—*F. trivirgatus*, Temm.—*Astur Hyder*, Sykes.—*Teesa*, H.

I shall, for the present, here place this somewhat anomalous bird, and shall consider it as a connecting link between the buzzards and falcons. Colonel Sykes, and others, consider it as an *Astur*, to which it certainly has some resemblance ; but as in Swainson's classification the falcons and not the hawks are united to the buzzards, and as it certainly in many points is allied to *Buteo*, I have accordingly left it as the medium of junction of the two families. I am by no means certain, however, that it should remain here ; for its small size, its manner of flight, and other habits, tend to remove it from this heavy-flying family. I have only hitherto seen the *Teesa* in the more northern portion of the Deccan, and it increases in number as you advance to the northward ; about Jaulnah it is very numerous. It frequents topes, as well as the open country, where it may be seen seated on low trees and bushes, an ant hill, or the banks of rivers, whence it pounces on mice, lizards, small snakes and various large insects and their larvæ. Mr. Elliot in his notes says, " It is said to be fond of crabs. It certainly does not refuse them. I saw a *Pardee* catch one directly by baiting his springs or nooses with a crab." The flight of the *Teesa* is tolerably rapid, performed by repeated strokes of the wings, exactly like that of the *Kestrel*, for which at a distance I have occasionally mistaken it. Its flight too in general is low. I have seen it several times take a much more extended flight than usual over a *runna*, flying at a low elevation, and now and then rising slowly a few feet, and I observed it apparently capture a locust or some other insect on the wing. I possess at present a pair of the *Teesa* alive, a young male and adult female. The male has much white below, streaked with brown, and the brown of the upper parts is not so dark as in the adult specimen. The irides are light brown. I had lately also brought me a full fledged young bird, which had dropped from the nest. In this the head, back of neck, and all below, were of a reddish fawn colour, streaked with brown. The light wing spot was also of a reddish white colour, and the irides dark brown, in other respects it did not differ materially from the older birds ; has a plaintive but crowing call, consisting of two notes. Irides silvery white ; cere and part of bill yellow ; tip of the latter blackish ; legs and feet yellow. Length 16—17½ ; of a fem. 17½, the wing 12—tail 6¾—tarsus, 2¼, mid. toe 2.

I shall here add a few particulars respecting the structure of this curious bird. Bill rather short, edge of the mandible scarcely festooned, gradually bending from base, nostrils rather small, pyriform, with narrow point,

placed upwards and forwards; wings reaching to within about an inch of end of tail; 3d and 4th quills longest and nearly equal; four first, with webs, notched, but not so deeply as in the last species. Legs and feet moderate, strong; anterior scales large, transverse; posterior not so distinct, in a double row. Internal lateral scales small, irregular. External ditto, larger. Feet short; inner toe without the claw, shorter than the outer one; whole length of the toes covered with broad scales.

GENUS *CIRCUS*, *Bechstein*—*Harrier*.

23—*C. pallidus*, Sykes.—*C. cyaneus*, var?—*Dust-mal*, H.—*Indian Harrier* and *Ringtail*.

Besides the peculiarities of plumage which induced Colonel Sykes to separate this bird from the European *Harrier*, it differs in having the wing longer, being in some specimens $14\frac{1}{2}$ inches long, and reaching within $1\frac{1}{2}$ inch of the end of the tail; it also differs somewhat in the proportionate length of the quills.

The Indian *Harrier* is very generally spread and in many parts indeed very abundant. It frequents the open stony plains and cultivated ground; especially when the grain is high—occasionally, though rarely, I have seen it in cantonment, hunting along a hedge side. I have seen it perch on trees, though very seldom. Its chief food is lizards, locusts and grasshoppers—also mice and small or young birds, especially quail, if an opportunity occurs of suddenly snatching them. Mr. Elliot says in his notes, “migrates from Southern Mahratta country in February, and returns at the end of the monsoon like the *Bhyree*.”

24.—*C. cineraceus*, Mont.—*C. Montagui*, Vieill.*—*Montague's Harrier*.

This species is I think more abundant even than the last in the table land, but I did not observe it in the Carnatic. It frequents the same ground, and has the same habits as the last. It differs remarkably from it in the length of the tarsus, which is only $2\frac{1}{4}$ inches in the male bird, whilst in *C. pallidus* it is about three inches.

* I cannot help thinking that Nos. 23 and 24 are the same bird. I deposited a series of specimens showing the varieties of age and sex in what I considered to be three species, but which, on comparison, were found to agree pretty exactly with a full series of English specimens in the College museum Edinburgh, and by which I was satisfied of the existence of two well defined species only,—*Circus cyaneus* and *C. cineraceus*, or *Montagui*.—W. E.

25.—*C. rufus*, Briss.—*C. variegatus*, Sykes' adult bird.—*Marsh-Harrier*.
—Kootur, H.

I venture to bring these synonymes together on the authority of Gould, as mentioned in a late volume of the Naturalist's Library on British Birds. The *marsh-harrier* is generally spread throughout India, but is not nearly so common as either of the former species. It prefers hunting over rivers, tanks, marshes and paddy fields, but also is frequently seen skimming over the dry grain fields; it feeds on various water insects, fish, frogs, mice and small birds. The irides of the adult bird are yellow, of those in imperfect plumage, dark brown. Length of one specimen $21\frac{1}{2}$ inches, wing, 16, tail, 9, tarsus, $3-\frac{2}{10}$ ths, mid. toe, $2\frac{1}{2}$.

26.—*C. Melanoleucus*.—*Black and White Harrier*.

Though I have not yet procured a specimen of this rare *Harrier*, I have seen it occasionally both in the Carnatic and West Coast, and it is included in Mr. Elliot's catalogue of the birds in the Southern Mahratta country, from which I take the following, measurements:—Length 17—18 inches; tarsi $2-\frac{9}{10}$ ths, weak; mid. toe $1\frac{1}{2}$; bill and cere black; legs yellow; wings $1-\frac{7}{10}$ ths, shorter than tail.

SUB FAMILY FALCONINÆ, *True Falcon*.

GENUS FALCON.—Auct. *Falcon*.

27.—*F. peregrinus*, *Peregrine Falcon*.—*Bhyree*, H.—the male being the *Bhyree bucha*.

It is surprising that the *Peregrine* falcon has not hitherto been recorded as an inhabitant of India, as it is universally spread and much used in Falconry by the natives. No mention of its having been found here is made in 'Yarrell's British Birds,' nor in Sir W. Jardine's later work, though in the latter it is stated 'we think it much more than probable that it may also be found in the Alpine regions of India.' The *Bhyree* is found even in the hottest parts of the peninsula. I obtained one alive at Trichinopoly which was said to have fallen into a tank. Many are yearly captured about Rannad and also in the Northern Circars. I shot a specimen on some rocks, in the sea of Tellicherry, at the end of

April; and it is tolerably abundant in the more northern parts of the Deccan, as near Jaulnah, occasionally coming into cantonment and carrying off chickens, &c. Mr. Elliot in his notes says, "It is migratory, appearing on the eastern shores of the peninsula in September or October, and remaining till March or April, when it disappears for the purpose of breeding and moulting." (I think I have observed it as late as June near Jaulnah, but cannot be certain). "Great numbers are caught every year in the Northern Circars by a cast named *Yerkles*, and sold to the falconers of Hyderabad, Kurnool, &c., at an average of 10 rupees each. The falconers distinguish three kinds, the black, the red and the white, according to the shades in their plumage." The *Bhyree* affects, in general, open country, rocky hills and deep valleys where brushwood abounds, also frequents tanks, and preys much on paddy birds, ducks and other water-fowl. It is more esteemed for its courage and powers of flight than either of the other two large falcons found in this country. It does not differ, as far as I can judge, from the descriptions of British specimens.

28.—*F. luggur*.—New species?—*F. lanarius*, L.?—*Luggur*, H.—the male being the *Juggur*.*

This species of falcon, apparently undescribed, appears much to resemble the description of *F. lanarius* or the *Lanner*; but, owing to the only description I have access to being very brief and imperfect, I cannot speak with any certainty. It is said by Mr. Gould to exceed the *Peregrine* in size, and if so, is probably distinct as the Indian bird, though much about the same length as the *Peregrine*, is not so large or heavy a bird. Mr. Gray has given the specific name of *juggur* to a falcon, which I do not know, but which does not resemble this one in the least.

The *lugger* is the most common of the large falcons of India; unlike the last it breeds here and on trees during the hot weather.

Descr.—Above, of a uniform brown colour; below, white, with a few brown spots and brown cheek stripe; cere and legs, blueish; wing feathers hardly reach to the end of the tail. Quills and rectrices with numerous white spots on their inner webs; young bird is entirely brown

* The old bird at the 5th year is figured in Gray & Hardwicke, very correctly; vol. ii. pl. 26. Mr. Jerdon's remarks, seem to refer entirely to the young bird. It is probably a new species, differing from the *Lanner*; is about the same size as the *Shaheen*, and much smaller than the *Peregrine*.—W. E.

below. It loses the brown of the breast at its first moulting, and that of the belly with the two following moults. Length of an adult female, first year, 19 inches. I have derived most of the above information, regarding the change of colour of the *luggur*, from Mr. Elliot's notes, as, though it is far from being uncommon, and I have frequently seen it, I have hitherto only procured young birds. One was brought to me alive at Trichinopoly; it was a bird of the year, and entirely brown. Another I shot lately at Jaulnah, has the head and hind neck of a light fawn colour, broadly streaked with brown; chin and throat white; feathers centred with brown; under tail coverts fawn, barred with brownish grey, rest of the plumage dark brown, the feathers margined with a lighter tint.

The *Lugger* is flown frequently at the crow, in pursuit of which much sport is said to be afforded. It is a bird of heavier and slower flight than any of the other falcons of India.

29.—*F. Shaheen*.—New species.—*Shaheen*, H.; the male being the *koela*.*

This also apparently undescribed falcon, very much resembles the colouring of the *F. juggur* of Gray, but differs in wanting the rufous head of the latter. It is not so common as the last, I think, and prefers a wooded country, or at all events does not dislike it, for I have shot it in Travancore, in a thickly wooded district, and seen specimens from other parts of the West Coast. From Mr. Elliot's notes I extract the following: "The *shahen* is a native of India, and breeds pretty generally among rocky mountains. The moulting begins about March, when they also pair, and the young begin to fly about June, when they are caught by the falconer. Their natural flight is a high hovering in the air, from which they pounce on their prey. This the falconer improves into a standing gait, and makes them stoop on partridges, florikin, &c. I have also heard of their being made to fly at duck and teal."

Description.—Above, of a slate blue colour, lightest on the rump; head, hind neck and cheek streak nearly black; beneath, brownish orange, or a sort of chesnut colour, which gradually disappears on the throat, breast and upper part of belly, being replaced by white. In the young bird the parts beneath are spotted with dark brown drops, which gradually disappear from the crop downwards. Cere and legs yellow; irides

* It is figured correctly in Temminck, Pl. Illum. as *F. Aldrovandii*.—W. E.

deep brown; quills and tail blackish grey. Length of female 17—17½ inches; of a male bird 14¾; wings to end of second quill 10¾; tail 5¼; tarsus 1½; middle toe 2½. It differs in structure from the *Peregrine* in having a shorter wing, shorter tarsus, and in the 3d quill (if my specimen is in perfect plumage) being considerably shorter than the first.

The *Shaheen* is said to be very speedy, even more so than the *Peregrine*, though it will not hold out so long.

30.—*F. chicquera*, Lath.—*F. ruficollis*, Swain.—Fem. *Turoomtee*—male *Chetwa*, H.

The specific name of *Chicquera* has been erroneously applied to this species, being the Indian name for the common sparrow hawk of the country. It corresponds in colouring exactly to the description by Swainson of his supposed new species;* the black marks round the ear and beneath the eye, supposed by him to distinguish his *ruficollis*, are always present. It is generally, however, a larger bird. The *turoomtee* frequents patches of wood or single trees in the open country, and even gardens. It is found in all parts of the peninsula, is a bird of great courage and activity, generally hunts in pairs, rising alternately over their prey, and sometimes following closely on the wing. I have seen it hover, occasionally, though rarely. It preys chiefly on small birds. Mr. Elliot has, "will not suffer other birds to approach their perch, but drive away even the *wokhab*, hovering over him with shrill cries. The *turoomtee* is occasionally reclaimed and flown at small birds, especially at the common jay or roller (*Coracias Benga-lensis*), in pursuit of which much amusement is afforded from the clumsy evolutions and harsh cries of the quarry." Naked space round eyes, cere and base of bill yellow; legs do.; length 14—15 inches,—of *chetwa* 11—12. Tail exceeding wing by nearly two inches.

21.—*F. tinnunculus*, L.—*Kestrel* or windhover.—*Nurzee Nurzanuck*, H.

The *kestrel* is an extremely common and abundant bird, frequenting chiefly the open plains and bare rocky hills. Its chief food is lizards, also large insects, and occasionally young birds. The male is occasionally as large as the female.

* V. Birds of West Africa, vol. 1.

SUB FAMILY ACCIPITER.—*Hawks.*GENUS ACCIPITER, Will.—*Sparrow Hawk.*

32:—*A. dukhunensis*, Sykes.—*A. dussumerii*, Temm. ?—*Chicquera* or *Shikra*, Hi. ; the male *chipka*.—Common *sparrow hawk*.

Colonel Sykes has accurately described the young state of this bird ; but the adult plumage differs so much that it might be mistaken for a distinct species, and I shall accordingly describe it :—Above of a delicate bluish grey colour, darkest on the head, ears greyish fawn, throat white, with, in some instances, a faint longitudinal stripe ; breast and belly white, very numerously barred with narrow, transverse, fawn coloured marks, so much so as almost to conceal the white ground. Lower belly, thighs and undertail coverts pure white ; a brownish red mark extends partially round the upper part of the back of the neck, forming a half collar, only conspicuous however when the neck is stretched. Quills blackish. Tail with 2 middle and 2 outer feathers not barred, the remaining ones only on their inner webs. Cere bright yellow ; irides, deep orange yellow ; feet buff yellow ; length of male $12\frac{1}{2}$ inches ; of female $14\frac{1}{2}$; of the latter the wing to end of 4th quill is $8\frac{2}{10}$ ths ; tail 4 inches beyond, from base nearly 7 ; tarsus about 2 ; mid. toe $1\frac{5}{10}$ ths ; tarsus with anterior scales large, transverse ; posterior scales, small and numerous above, larger below, and in two rows ; external lateral scales distinct and transverse ; internal lateral, indistinct, or confounded with the posterior.

This widely spread hawk prefers a woody situation, though not in general found in thick jungles. It hunts about avenues, hedge rows, topes and open spaces in the jungle, often enters gardens, approaching close to houses. It takes its prey by a sudden pounce, seldom attempting to follow. Its chief food is lizards and small or young birds. The *Shikra* is very commonly reclaimed ; in this state it is a bird of great courage, and will easily strike down partridges, crows, and even larger birds, as the small hornbills (*B. gingianus*) and young half grown peafowl. I am informed that at Hyderabad it has been trained to hunt hares. Mr. Elliot says, “ a variety without the black line on throat is called *meetun*, and is particularly esteemed in falconry.”

I think it barely possible that the *F. Dussumerii* of Temm. may be identical with this bird ; though I see Colonel Sykes has referred to this another species, and Mr. Elliot considers it as properly belonging to the next species.

- 33.—*A. Dussumerii*.—*F. Dussumerii*, Temm. P. C. ?—*Basha* (the female)
Bashecn (the male), H.

I have not hitherto seen this sparrow hawk, and take the following brief description from Mr. Elliot's notes : "Above, brown, white eyebrow tail with 5 or 6 bars ; beneath, white barred, and a tinge of reddish on breast ; utters a plaintive cry like the *besra* ; legs long and thin." Colonel Sykes says, 'Irides bright yellow, wings short, tail long and narrow ($6\frac{1}{2}$ inches) ; total length of a female $12\frac{1}{2}$ inches.' As I before stated, I think that this species may be yet undescribed, for several specimens of *F. Dussumerii* appear to have been taken home by the French travellers, and the *Shikra* is the only species at all common.

- 34.—*A. Besra*.—New species ?—*Besra* (female), *Dhotee* (male), H.

Of this species I am also ignorant, and am indebted again to Mr. Elliot's notes for the following very brief notice.

"Above, brown ; beneath, white with brown spots ; becoming more cinereous with age, and the spots beneath becoming broad bars ; cere and legs greenish yellow ; eyes yellow, large pupil ; length about 12 inches, tarsus $2\frac{2}{10}$ of an inch."*

- 35.—*A. fringillarius*.—*English sparrow-hawk*.†

I shot a specimen of what I suppose may be the European species in thick and lofty jungle on the Coonoor pass of the Neilgherries, at about 5000 feet of elevation—I add a description of my specimen :—Above of a deep clove brown with black reflections, head and back of neck almost black, tail light grey, with 4 broad dark bars on the centre feathers, and 6 on the external ones, face and ears dusky, throat white, with a longitudinal stripe, and a few streaks of dusky black ; breast, abdomen, and thigh coverts, white, numerous and broadly barred with rufous brown, mixed with dusky brown ; under tail coverts pure white ; cere and legs lemon yellow ; irides bright yellow ; total length $14\frac{1}{2}$; wings to end of 4th quill $7\frac{1}{2}$; tail $5\frac{8}{10}$ ths ; tarsus 2 ; middle-toe $1\frac{7}{10}$ ths ; tarsi thin, with the anterior and posterior scales each of one entire piece ; no lateral scales.

* I have only met with it in the Soonda jungles, where it is taken young by a caste called *Halapyks*, and sold to falconers from Hyderabad.—W. E.

† I think the *Basha* will ultimately turn out to be identical with this. My impression on seeing the *Basha* in the *Gykwars Shikar Khanah* at Baroda, was that it was the English sparrow hawk. It was very like the *Baz* in miniature, which I here first identified as the *Goshawk*.—W. E.

GENUS ASTER.—*Goshawk*.

36.—*A. palumbarius*.—*Goshawk*.—*Baz* (female), *Joorah* (male), H.

I obtained a specimen, of what I consider as the young male of this bird, seated on a bough on one of the thick wools of the Neilgherries close to Ootacamund. I several times afterwards observed a pair of apparently the same bird hunting together near Coonoor, where they had committed several depredations on some pigeons, and I one day saw them make an unsuccessful swoop at a flock of pigeons close to the house. Their flight was swift, similar to that of sparrow-hawks, but at a considerable height, whence they made a sudden pounce. I add a description of my specimen:—Above of a dark brown; the eyebrows white, and the feathers of the head, hind neck, and upper part of back narrowly edged with whitish, and with white base; tail of a lighter tint, barred with 4 dark bands on centre feathers, and 5 on the rest; beneath, white; on the sides of the breast a cluster of large oval brown spots, and a few others sparingly distributed over the abdomen; the thigh coverts are transversely banded with brown; cere and feet lemon yellow; irides bright yellow; length $16\frac{1}{2}$ inches; wing $8\frac{1}{2}$ to the end of 4th quill; tail beyond $4\frac{1}{4}$, from base 7; tarsus $2\frac{1}{10}$; feathered in front more than half its length; middle toe 2 inches; anterior and posterior scales large, transverse: external lateral, small irregular. I see by Mr. Elliot's notes that he considers the celebrated *Baz* of India to be identical with the European goshawk.

FAMILY STRIGIDÆ.—*Owls*.SUB FAMILY STRIGINÆ.—*Typical owls*.

GENUS STRIX, Auct.

37.—*S. Javanica*. Horsf.—*S. flammæ*, var. ?—*Kareya*, or *Kurail* H.—*rulgo*, *Booree Chooree*.—*White Owl*.

This has been separated from the European species on account of some slight though permanent deviations of colour, which many do not consider as sufficient to warrant a specific distinction. As, however, Colonel Sykes has followed Horsfield, I shall also do so. The white owl frequents wooded places, topes, bushy nullahs, and trees, near tanks

and rivers. Though generally spread, it is not very common. It utters a harsh shrill cry at night; Mr. Elliot in his notes says, "The natives assert that in doing so, drops of blood are forced from its bill, and should any of these fall on the backs of cattle, they become weak in the loins."

The chief food of this owl is rats and mice. Whilst at Madura lately, one flew into my room at an open window after a rat that was running about, and I secured it alive; length of one specimen from tip of bill 17; (from top of disk 14) wings 12; tail 5; tarsus $2\frac{1}{2}$; middle toe $2\frac{1}{4}$; expansion of wings 3 feet.

33.—*S. Longimembris*.—New species?—*S. Javanica*, var.?

On the Neilgherries, near Coonoor, in a bushy valley, I obtained a specimen of an owl very similar to the last, but differing in some structural points, as well as in the shade of plumage. If it should be considered a distinct species, it may be named as above, from the comparative length of both wings and legs.

Description.—The ground tint of the plumage is similar to that of *S. Javanica*, but lighter or more yellow. The grey tint on the upper plumage of the latter is replaced by a deep brown colour, and the white spots are less numerous. Below, the white is much tinted with ochreous, and the brownish red spot on the disk of the common species is here of a very deep brown. The most important differences, however, are structural, as will be seen by comparing the measurements with those of the last.

Total length about $17\frac{1}{2}$; of wing $14\frac{1}{2}$; tail $5\frac{1}{4}$; tarsus $3\frac{1}{2}$; middle toe $2\frac{1}{4}$. The wings reach two inches and more beyond the tail, whilst in *Javanica* they only reach half an inch or so. A similar species to this is indicated in Griffith's Cuvier as follows—"Tuidara, owl—*S. perlata*, Licht.—*S. Tuidara*, n. &c. Like *S. flammea*, but the legs are longer—Brazil."

GENUS OTUS, Auct.

39.—*O. brachyotus*, Cuv.—*Short eared Owl*.—*Chota Ghoghoo*, H.

I have hitherto only obtained this species on the table-land, though I am informed it is also found in the Carnatic and Northern Circars in suitable ground. It is not very common—frequents long grass on the open plains, and is occasionally flushed when beating for florikin. Of

two specimens I possess, one is nearly white below, whilst the other is of a deep ochreous tint throughout.

40.—*S. ? lugubris*, Tickell*—Jour. As Soc. Ben. No. 23.—*Choghud Besruh*, H.

As I have never seen this species of owl I merely place it here provisionally. It probably does not belong even to this sub-family, for Mr. Elliot (to whom I am indebted for my knowledge of it as a peninsular species) says, "It seems to belong to the falconine owls, with a short tail, of Cuvier."

Description.—Above of a uniform dusky brown, beneath whitish, barred with rusty brown like the *Besrah*—this barring decreases in quantity every year. A white line on the forehead, wings and tail, with dark transverse spots; bars of the tail five in number, and the latter tipped with white. Irides, large, yellow; cere greyish, fringed with black hairs; legs greyish, covered with hairs to the toes; length about 12 inches, breadth 26. This owl inhabits hills, rocky and jungly places. Mr. Tickell says, "inhabits the retired parts of the thickest jungle, coming towards the edges and open parts at night. It is completely nocturnal, and in a calm moonlight night its cries may be heard to a great distance, resembling strongly those of a strangling cat." Mr. Elliot says, "when seized cries like a child."

SUB FAMILY ————— ? *Sub-typical Group*, Sw.

GENUS URRUA, Hodgson.†

41.—*U. Bengalensis*.—*Otus Bengalensis*, Frankl. and Vig.—Gould. Cent. pl. 3.—*Googoo*, H.—*Common Indian horned Owl*.

This large and handsome owl is the most abundant and most universally spread of the large owls of India. In the Carnatic the *googoo* frequents rocky barren hills chiefly, where seve-

* I have adopted the name given to this species apparently by Lieut. Tickell, of the Bengal army, in an excellent account of a few birds collected by him in the jungles of Borabhum and Dholbhum. It would not I hope be too much to expect from him a full catalogue of the birds of the vast plains of Bengal, and neighbouring countries, arranged according to the modern nomenclature, in which his former list is rather deficient. From this list (published in 1833) he appears highly qualified for the task, and as it is undoubtedly a desideratum, I trust he will be induced to undertake it.

† Journal Asiatic Society Bengal—No. 65.

ral may often be seen seated even for some hours after sunrise. In the Deccan it frequents rocky ravines, banks of rivers, and holes in the steep sides of the precipitous trap hills—also often found about old buildings, forts and walls. On the Neilgherries it is however generally found in the dense woody glens there. Though partially diurnal, it chiefly preys during the night; its chief food is rats and lizards, occasionally birds, crabs, and frequently large locusts and mantides. I have at present a pair, male and female, of this species alive in my possession. Their usual cry is a single, loud, clear and prolonged hoot. I occasionally at night heard them utter a low indistinct strangling sort of cry. They vomit bones and feathers in the form of a pellet. When alarmed they hiss, and make a loud snapping noise with their bills. If a dog or other animal approaches, they lower the head almost to the ground, erecting the whole of the feathers of the body, and spreading out their wings to their full extent; these from the stooping position of the bird are nearly vertical, almost touching the ground with their upper edge: and from their extent the bird presents a formidable front to an intruder. Their egrets certainly seem connected with their exalted sense of hearing, being generally raised whilst in the act of listening. They are also erect during sleep, at which time the wings are also occasionally brought forward. I may here remark that the egrets of this bird are drawn too large in Gould's Century, and besides they are never permanently raised in the position there indicated, being kept much more erect, nearly vertical indeed.

GENUS BULACA, Hodgson, *loc. cit.*—SCOTIAPTEX, Sw. ?

42.—*B. Sinensis*.—*S. Sinensis*, Gray, Gray and Hardw. Ill. I. Z.—*S. pagodarum*, Temm. P. C.—*S. selo-puto*, Horsf.—*S. Indranee*, Sykes ?—Young bird ?

I have only once observed this very elegantly marked species, which I have referred provisionally to Mr. Hodgson's lately proposed genus. I met it in a tope, and some large single trees, near Verdupettah to the S. of Madura on the Palamecottah road. If, as I suspect, *S. pagodarum* and *S. selo-puto* are identical with this bird, Mr. Gray's specific name must be abandoned. It is an owl of pre-eminent beauty, both as regards the shade of the plumage and the softness and delicacy of the markings.

Length (from top of bill) 21 inches; of wing 15; tail $7\frac{3}{4}$; tarsus $2\frac{1}{4}$; middle toe $2-\frac{2}{10}$ this; irides, deep brown. Has a harsh and dissonant cry at night.



Hukua pectoralis.

GENUS SCOPS, Sav.

- 43.—*S. Javanicus*, Less.—*S. Lemnyi*, Horsf. ?—*S. noctula*, Temm ?—*Indian Scops Owl*.

I procured a single specimen of a small owl, that answers the brief description of Lesson, in the western ghauts near the Peria pass.

Description.—Above, brownish, varied with ferruginous and blackish. Quill feathers with the outer webs marked by several strongly defined bars of buff; beneath of a ferruginous tint, finely vermiculated with brownish, and the feathers streaked in the centre with blackish. Length (from tip of bill) $9\frac{1}{2}$; wing 6; tail $2\frac{3}{4}$; tarsus $\frac{2}{10}$ lbs; 4th and 5th quill feathers longest, and the 2d is equal to the 7th.

SUB FAMILY AËTOGLAUCINÆ, Hodgson.—*Eagle Owls*.GENUS HUHUA, Hodgson, *loc. cit.*

- 44.—*H. pectoralis*.—New species ?—*Ooman*, Mal.

Description.—Above of a deep sepia brown, having in some lights a golden tint: most of the feathers, especially on the wing coverts, tertials, scapulars and tail, barred and mottled with light buff. Egrets long, with narrow bars of whitish; face, ears, rectal and mental bristles silvery grey, very strong and rigid; the frontal feathers also rigid and bristly. Beneath, white, feathers barred with brown numerous on the throat, less so in the belly and vent, and the bars are larger and take an arrow-headed form. A narrow pectoral band of brown, with a golden tinge, and edged with buff as above. Irides deep brown; cere greenish yellow; bill greenish-horn, with a tinge of flesh colour; toes dirty reddish yellow.

Though I have placed this bird under Mr. Hodgson's new genus *Huhua*, with which it agrees in some of the most important characters, especially in its large and lengthened bill, large egrets, short stout and feathered tarsi, strong toes, and immense talons, yet it differs in the following respects: the bill is hardly straightened beyond the cere, it has an obsolete festoon, the nares are partially covered with bristles, which extend the whole length of the bill; the 5th and 6th quills are longest and sub-equal, and the tertials are nearly as long as the primaries; the hind talon like-

wise is rather larger than the outer fore; the toes are nearly covered by bristly feathers, and there are 3 large scales on each of the toes next the talons. These differences, however, probably only entitle this bird to rank as an aberrant species, or it may be as a sub-genus. Length, 23 inches; wing $16\frac{1}{2}$; tail $8\frac{1}{4}$; tarsus 2; mid toe 3; inner $3\frac{1}{2}$.

I have hitherto only found this powerful and splendid owl in the dense and lofty forests of Malabar. It is chiefly nocturnal, issuing forth to the more open spaces about dusk. I was informed by an intelligent native that it feeds on various mammalia, and also on fish, and that it will dive to some depth for these. The stomach of the only specimen I procured was empty. It had just perched on a large palmyra palm overlooking a tank. It utters a low moaning cry at intervals. Should it prove undescribed, it may be named as above, from the marked pectoral band.

GENUS CULTRUNGUIS, Hodgson.—*Ketupa*, Less.

- 45.—*C. Leschenaultii*.—*Ketupa Leschenaultii*, Less.—Temm. P. C. 20.
—*S. Hardwickii*, Gray, Gray and Hardw. Ill. I. Zt.—*Amrai ka*
Googoo, H.—*Large horned wood Owl*.

I have here adopted Mr. Hodgson's excellent and classical name, though that of M. Lesson has the priority, not more on account of his accurate generic definition, than from the excellent composition of the word.* This powerful bird is generally spread throughout India, though far from being common. It frequents chiefly the more wooded districts, though also found in topes and avenues in open country. It is partially diurnal. Its voice is a loud and harsh hollow laugh. I know nothing of its food. Mr. Hodgson says that the genus is piscivorous, and thus the analogy of its feet and legs with those of *Pandion* are beautifully explained. The markings of the species figured as *S. Hardwickii* in Gray and Hardwicke's *Illustrations*, appear not to differ from those of our present subject, and I suspect the sentillation of the tarsi there represented is an embellishment of the native artist, most probably, and that this must therefore stand as a synonyme.

* It is, I think, much to be regretted that Mr. Hodgson, who in this and other instances has shewn his talent in the formation of classically compounded words, should in general adopt unmeaning (to most readers) and cacophonous generic names from the vernacular dialect of Nepal.

SUB FAMILY ——— .—*Hawk Owls.*

GENUS NOCTUA, Sav.—Hodgson.—*Althene* of recent authors.—*Nyctipetes*, Sw.

I shall here retain for the present the generic name of *Noctua*, though it has been properly objected to that it had been previously applied to a genus of moths.

46.—*N. cuculoides*, Vig.—Gould Cent. pl. 4.—*Junglee choghud*, H.—*Jungle Hawk Owl.*

This very handsomely plumaged little owl is said in Gould's Century to be "supposed to be confined to the Himalayas." I have found it wherever there is lofty jungle. In Goomsoor, on the eastern side; and on the west, in Travancore and Malabar, where it is by no means rare.

It frequents lofty trees and flies about actively in the day time, at least when disturbed; I have generally found it single, rarely in small flocks. It feeds on various large insects, chiefly *coleopterous*.

Irides golden yellow; bill and legs greenish horn colour. Length 9 inches; wing 5; tail 3; tarsus $\frac{5}{10}$ lbs; mid toe $1\frac{1}{4}$.

47.—*N. Indica*, Frankl.—*S. brama*, Tem. P. C. 68.—*Choghud*, H.—*Peenglah*, Mah.—*Little spotted Owl*—*Divining Owl.*

This little owl is extremely abundant in Southern India (more so, particularly in the Carnatic, I think, than in the Deccan), and is often very annoying from its familiar and noisy habits. It generally roosts during the day in large trees, but frequently also in the caves of houses or under the roof, and though it is most active and noisy during the night time, feeding then, yet it is often very noisy during the day, uttering its harsh squabble, three or four joining in chorus at the same time. Its usual cry is something like 'juk' juk' juk', repeated very quickly.

About sunset it usually sallies forth from its roosting place to feed; its chief food is beetles and other insects, but it occasionally captures mice. It takes insects sometimes on the wing, or snaps one off the ground or the trunk of a tree, during its low undulating flight, which is generally short, but at times prolonged to some distance over the plain.

In some parts of the country it is supposed to have the power of divination.

(To be continued.)

II.—*Catalogue of the Birds of the Peninsula of India, arranged according to the modern system of Classification; with brief Notes on their Habits and Geographical Distribution, and description of new, doubtful and imperfectly described Species:—By T. C. JERDON, Assistant Surgeon, 2d Madras Light Cavalry.*

(Continued from No. 24 page 91.)

Supplement to RAPTORES.—By WALTER ELLIOT, Esq.

Since the publication of the first portion of Mr. Jerdon's Catalogue, I have been enabled to add another beautiful accipitrine bird to his list. It belongs to Genus *NISÆTOS*, Hodgson; and should follow immediately after *N. Niveus*? No. 12 in the Catalogue.

12½. *N. Cristatella*, Temm. Pl. Col. p. 282.—*Shah Baz*, H.

Adult male of 1st year—Total length 24 inches; length of tail, $11\frac{2}{10}$; of bill, straight to gape, $1\frac{7}{10}$; tarsus from the angle of the outer bend to the sole $4\frac{4}{10}$ ths; central digit 2; do. claw $1\frac{1}{10}$ th; hind digit $1\frac{2}{10}$ ths; do. claw $1\frac{4}{10}$; of wing closed 16 inches: two central crest feathers, 4; two next, $2\frac{1}{4}$: colour brown; beneath, brown intermixed with white; each feather being brown with a white edge, which increases with successive moultings until the brown is reduced to a mere line. Crest dark brown, approaching to black. Quills barred transversely with darker brown. Tail with 4 well defined bands, the last forming the tip, and an imperfect one near the base making a fifth. Feathers of the tarsi with a slight fawn tinge spotted with brown.

Sits on the tops of the highest trees, on the watch for hares, pea-fowl, jungle-fowl, on which it swoops from its elevated perch. Solitary. Shot in the Rampoor jungle, inland from Nellore, at the foot of the eastern ghats.

I have now before me a living specimen of the species distinguished as *Nisætos Niveus*, and two skins of the same bird. The corresponding dimensions of an adult male of several moultings are—total length, 26 inches; length of tail 11; of bill, straight to gape, 2; tarsus, from the angle of the outer bend to the sole, 4; central digit $2\frac{4}{10}$ ths; do. claw $1\frac{2}{10}$ ths; hind digit $1\frac{2}{10}$ ths; do. claw $1\frac{5}{10}$ ths; wing closed 18 weight 3-lb. $13\frac{3}{4}$ drs.

The *Mhorungee* is not crested. It is stronger and altogether more powerful than the *Shah Baz*. Tarsus shorter; talons more powerful.

Beneath whiter, because older, the brown being reduced to the shafts of the feathers only. Tail with 7 bars, the last forming a broad dark band at the tip, the others narrower, indistinct, particularly those next the tip. Quills dark brown, not banded. Cere and legs, pale yellow; bill plumbeous at the base, black at the tip.

There is little doubt this is a new species. Temminck's bird is only 25 inches, and the wings have a band, and the tips of the quills brown.

In habits it differs much from the last, seeking its prey more frequently on the wing, hunting in pairs and stooping on hares, pea-fowl, &c.

The living one was caught at the rocky mountain of Awulkondah in the Arcot district, where a pair of them were used to resort, by baiting some falconer's springs with a fowl, on which they both descended. One was caught in the snares, the other alighted on a tree in the neighbourhood and was shot. The female measures 28 inches in length.

ORDER II. INSESSORES.

TRIBE DENTIROSTRES.

FAMILY LANIADÆ.—*Shrikes*.

SUB FAMILY LANIADÆ.—*True Shrikes*.

GENUS LANIUS, Auct.—COLLURIO, Vig.—*Shrike or Butcher Bird*.

48.—*L. Hardwickii*.—*Coll. Hardwickii*, Vig.—Gould Cent.—*Pechanuk*, H.—*Bay backed Shrike*.

This handsome little shrike is the most abundant of the Indian species, and is tolerably common in every part except the West Coast. It frequents gardens, hedges and cultivated ground, but chiefly delights in low, thorny, but open, jungle—feeds on locusts, grasshoppers, and also on small birds.

Bill black—Irides hazel brown; length about eight inches; tail nearly four.

49. *L. lahtora*.—*Coll. lahtora*, Sykes.—*L. excubitor*, var. *C. Lath.*—*Doodhea latora*, H.—*Large grey Shrike*.

Generally spread, except on the Western Coast, where it occurs rarely,

if at all—more abundant on the table land than below the ghauts—frequents open baubul jungle, or single trees on the open plain, or cultivated ground. Seldom approaches villages or cantonments, as the last does, but has the same habits and food.

Irides hazel brown—bill and legs black—length $9\frac{1}{2}$ inches; tail 5.

50. *L. erythronotus*.—*Coll. erythronotus*, Vig.—*Latora*, H.—*Rufous-backed Shrike*.

This shrike is a rare bird in the Carnatic, less so in the Deccan, common on the West Coast, and most abundant on the Neilgherries. It prefers a more wooded country than the two last species—frequents low bushy ground or open spaces in the jungle, and has similar manners and food to others of the genus.

Length 10 inches; tail $4\frac{1}{2}$; irides hazel brown—bill and legs black.

51. *L. nigriceps*.—*Coll. nigriceps*, Frank.—*Black headed Shrike*.

I have hitherto only observed this species in Goomsoor, perched on trees, at the edges of thick jungle.

Irides deep brown—length $10\frac{1}{4}$ inches; tail 5.

SUB FAMILY DICRURINÆ.

GEN. TEPHIRODORNIS, Swainson.

I think that this genus rather belongs to the *Thamnophilinæ*, or bush shrikes, judging from its manners; but as Swainson looks upon it as the union of the two families, it may retain its place among the 'swallow shrikes.'

52. *T. Sylvicola*.—New sp.?—*Pharee Latora*, H.—*Jungle wood shrike*.

This apparently undescribed species inhabits the dense and lofty forests of the Western Coast and ghauts. I have found it on the Coonoor pass, as high as 5000 feet. It climbs and hops about the larger boughs of trees, seeking for and picking insects of various kinds, but chiefly coleopterous, off the bark, and occasionally making a swoop at one it has

spied on a branch at a short distance. Seen singly, or in small flocks, when they generally keep up a noisy and harsh chattering.

Descr.—Above, slaty cinereous—an eyeband, extending from nostrils to half an inch behind the eye, black—rump and beneath white, the breast with a tinge of reddish cinereous—wings and tail dusky brown. Length $8\frac{1}{2}$ inches; tail $3\frac{1}{4}$; wing $4\frac{3}{4}$; tarsus $\frac{7}{10}$ ths; bill (to gape) $1\frac{2}{10}$ ths; irides greenish or wax yellow.

53. *T. superciliosus*, Sw.—*Lan. musicapoides*, Frankl.—*L. Kercula*, Gray—Gray and Hardwicke, Ill. Ind. Zool. (bad figure).—*Common wood shrike*.

This species has been lately accurately described by Swainson,* but without the synonyms, of which he was probably unaware. It is generally spread throughout Southern India, but in no place abundant, though it is far from being rare in some parts of the country. I have seen it most numerous in Goomsoor, and in the Wulliar jungle (in the gap of Coimbatore). Colonel Sykes says it is rare in the Deccan—this is to be expected, from the bareness of the country. Though never found in dense jungle like the preceding one, the wood shrike is found in open jungle, in open spaces on the borders of thick forests, woody nullahs, topes, avenues, and even thick hedges occasionally. It has similar habits with the last; slowly traversing the branches of the trees it frequents in search of insects, chiefly coleoptera. Like it also it hunts in small flocks, or singly.

Length $6\frac{1}{2}$ inches; wing $3\frac{1}{2}$; tail $2\frac{3}{4}$.—Irides greenish wax yellow (as in the last).

GEN. OCYPTERUS, Cuv.—*Swallow Shrike*.

54. *O. leucorhynchus*.—*Ash-coloured Swallow Shrike*.

Appears to be universally spread over India; but is by no means common, and I have had very few opportunities of observing it. It prefers a wooded country, and always I believe takes its food, which consists chiefly of soft winged insects, in the air. I saw a flock once flying over an open space in the Wulliar jungle like swallows: again near Palamcottah, in a palmyra tope, a small flock of them, one every now and then darting

* *Two Centenaries and a Quarter of Birds, either new, or hitherto imperfectly described.*—*Animals in Menageries*, Part 3, No. 9:—Lardner's Cabinet Cycl.

from its perch on the top of a palm-tree, and making a short circuit in the air after insects, reseating itself, though not generally on the same tree. On another occasion I saw it in Travancore skimming over the surface of a tank, and returning to rest on a low bough over-hanging the water. Its flight is rapid, elegant, and remarkably like that of the swallow.

Length about 7 inches: wing 5; tail $2\frac{2}{3}$ ths; bill light cinereous, darker at tip; legs slate colour.

GEN. DICRURUS, Vieill.—*EDOLIUS*, Cuv.

Drongo Shrike.—*Fork tailed Shrike*.—*King Crow* of Europeans in India.

55. *D. balicassius*, Vieill.—*Common King Crow*.—*Kolsah* or *Bojunga*, H.—Sometimes also called "*Cotwal*."

This is the most common and abundant species of *Dicrurus*, and is to be met with in every part of the country, and inhabits alike the open country and wooded districts, but is never found in dense jungle. The king crow may be seen perched on a tree or hedge, the top of a low bush on the plain, or a stack of grain—frequently also on the top of a wall or old building, the bank of a paddy-field, or even a clod of earth or ant hill—and it is by no means uncommon to see one on the back of cattle, sheep or goats, while grazing. From this perch it watches eagerly for the stirring of an insect below—on observing one, flies rapidly to the spot, and, generally alighting for an instant on the ground, seizes its prey—frequently however the devoted grasshopper, or other insect, being also on the look-out, makes an attempt to escape, but is closely pursued by the king-crow, who either snaps it up on the wing or just as it has alighted. Having secured it, the *kolsa* flies off generally, but not always to its former perch, devours it at leisure, and then uttering its usual cry is again ready for a fresh capture. Such is the usual mode of feeding of this bird. It very frequently, however, captures various small insects on the wing, from the top of a tree or some lofty branch, sometimes ascending almost perpendicularly for several feet—occasionally whips one off a blade of grain, or from the surface of a pool of water. On the issuing of the winged termites from a nest in a hedge row, or near the bottom of a tree, there are generally several assembled to partake of the feast, together with the crows and minas. This bird gets its popular name of king-crow from its general habit of following crows most clamorously and persevering, every now and then pouncing

down on them, though it seldom strikes. It pursues kites and various other birds also, whence one of its common Hindostanee names (*cotwal*). In the bare Deccan I have often seen one or two king-crows high in the air, traversing the country, but apparently not hunting.

The usual cry of this shrike is a sort of crow or chuckle, succeeded by two or three sweeter notes, but it has several other cries. It is the first bird whose song is heard in the morning, often long before sunrise, and sometimes on moonlight nights throughout the whole night. Its flight is in general undulating, not very rapid, performed with few flappings; but when it exerts itself after a crow or other bird, it is capable of great speed, and always overtakes its enemy with ease. It occurs singly or in small families. I once found its nest, in the month of August, in the Carnatic, situated in the fork of a banian tree, at a moderate elevation—it was composed of twigs and roots, carelessly put together, and without any lining, and contained three eggs, white, sparingly spotted with purplish red. Its chief food is grasshoppers of various kinds, also bees, moths and other insects, chiefly coleopterous. Mr. Elliot in his notes says, it migrates from the Southern Mahratta Country during the monsoon. In the Carnatic I never observed any diminution in its numbers at any season, but in the northern part of the Deccan (at Jaulnah) it certainly becomes much more rare at that time, and indeed is hardly met with. The *kolsa* is occasionally tamed, and will perch on the head or hand of its master, and fly down after a grasshopper or other insect.

Length 12 inches; tail $6\frac{1}{4}$; wing $5\frac{3}{4}$; 4th quill perceptibly larger than the 3d and 5th, which are about equal—tarsus a little more than $\frac{1}{8}$ of an inch.

56. *D. cœrulescens*, Vieill.—*Lan. Fingal*, Shaw.—*E. leucogaster*.—*Pharee Bojunga*, H.—*White bellied king-crow*.

This species appears to be generally spread, but no where plentiful. It frequents open though lofty jungle, and well wooded districts, but is occasionally met with in topes and avenues in the Deccan and Carnatic. I have seen it most numerous in the Wulliar jungle, and the Segour pass of the Neilgherries, where I found it at a considerable elevation. It almost always captures its insect prey on the wing (sometimes however picks one off the ground); it perches near the top of a high tree, whence it pounces on its prey generally at no great distance. It has a sweet

song, not to be compared, however, to that of one of the genus hereafter mentioned. Irides blood-red.

Length $9\frac{1}{2}$; tail nearly 5; wing $4\frac{3}{4}$; tarsus nearly $1\frac{7}{8}$, much weaker than that of *balicassius*.

57. *D. Macrocerus*, Vieill.?

This is the rarest of all the Indian *Dicruri*. I have hitherto only seen it in the Segour pass, and on the summit of the Neilgherries, in both places on lofty and tolerably dense jungle. I observed it in the former place sally from its perch near the summit of a lofty tree, and make a considerable circuit, apparently capturing several insects, and then re-seating itself on some other tree. Several birds were thus engaged together, though at some distance from each other, and returning separately each to its own perch. In this respect it makes a nearer approach than any other Indian species to the manner of the African Drougo shrikes, as described by Le Vaillant, hunting in flocks like swallows, and mentioned by Swainson as being the general habits of the genus. Flight of this species similar to that of *balicassius*, but more rapid and elegant.

As I cannot be certain of this being the species indicated by Vieillot, I add a description. Above, glossy bluish black—beneath, dusky, blackish, with a faint gloss of bluish; wings and tail brownish black, with a faint gloss of bluish also—under tail coverts (in my specimen) edged with white—bill and feet black—bill more depressed than in *balicassius*, somewhat similar to that of *D. cærulescens*, but differs also from that.

Length nearly 11 inches; tail very nearly $5\frac{1}{2}$; wing 5; tarsus about half an inch; tail feathers more slender than in either *balicassius* or *cærulescens*. The chief peculiarity of this species is its short and feeble tarsus and foot.

58. *D. æneus*, Vieill.—*D. muscipetoides*, Hodgs.—*Bronzed Drougo Shrike*.

This species is always found in the most dense and lofty jungle. I have only seen it in the forests of the Western Coast, and have met it at an elevation of 4000 feet. It is generally found in small parties—stations itself near the top of some lofty tree, whence it makes frequent short sallies after insects, exactly like the flycatchers, and returns generally to the same branch. It sings most charmingly, being perhaps

only surpassed by the *Gryllivora longicauda*. Its food consists of various insects, both hard and soft winged. The name of *Muscipetoides*, given by Mr. Hodgson (Indian Review No. viii), is peculiarly appropriate, as well from the form of the bill, which is weak and highly depressed, as from the similarity of its habits to those of the flycatchers; and, if there is any doubt as to its being the *æneus* of Vieillot, should be adopted at once.

Length 9 to $9\frac{1}{2}$ inches; tail $4\frac{1}{2}$; wing $4\frac{3}{4}$; tarsus $\frac{1}{2}$ inch; irides dark brown; bill and legs black.

59. *D. retifer*.—*Lan. Malabaricus*, Shaw.—*Bherm* or *Bhring raj* H.—*Kate-ongal*, Mahr.—*Racket tailed Drougo Shrike*.

This splendid bird is tolerably abundant in many of the lofty jungles of the west of India, both above and below the ghauts, it being very plentiful in the Wynaud district. It appears to wander more in search of its food than other of the *Dicruri*, flying from tree to tree at no great elevation, making an occasional swoop at an insect on the wing, or whipping one off a branch; frequently, however, it feeds like its congeners from a fixed station.

It generally hunts singly or in pairs, occasionally, however, it is seen in small parties. Its food is chiefly large coteopterous insects, also large bees and wasps. It has a very peculiar cry, consisting of two parts, the first a sort of harsh chuckle, ending in a peculiar metallic sound, something like the creaking of a heavy wheel. Mr. Elliot says on this subject "its general note is a deep sonorous cry something like *tse-rung, tse-rung, tse-rung*." It has many other notes besides this; all of which however, have more or less clangor or metallic sound. I have seen it pursue a bird of prey (*Hæmatornis undulatus*, Gould) in the same manner as the common king-crow. It moults about September. Although it chiefly inhabits lofty jungles, I have seen it in comparatively low jungle, and I am informed that it often enters gardens in the cantonment of Cannanore. The *Bherm-raj* is occasionally taken and tamed: it used to be very frequently in former days, and sold for a very high price at Hyderabad. It is said to imitate the notes of all other birds, and hence is also called the '*Huzar Dustan*,' or bird of a thousand tales.

Length to end of true tail, 14 inches; length of ordinary tail $6\frac{3}{4}$; long tail feathers beyond 12, or more, even; irides dark hazel brown; wing $6\frac{1}{4}$; tarsus $\frac{9}{10}$ or nearly an inch; bill and legs black.

SUB FAMILY CEBLEPYRINÆ, Swainson.—*Caterpillar catchers.*

GENUS CEBLEPYRIS, Cuv.—*Spiny rumped Shrike.*

60.—*C. Papuensis.*—*Granculus Papuensis*, Temm.—*Large spine rump.*

This bird prefers well wooded situations, though not a denizen of thick jungle; hence is most abundant in the Western Coast. It is also found in the other parts of India in topes, avenues, palm groves, and occasionally even enters gardens. It lives partly on insects, chiefly mantides, grylli, caterpillars, and soft insects, which it searches for among the foliage of large trees; and partly on fruit, especially the fig of the banian tree. It is rather a shy and wary bird; flying before you from tree to tree, uttering, as it alights, two or three rather sweet and mellow notes: but it has also a very harsh rattling scream. It flies in an undulating manner, with few vibrations of its wings. Its flesh is eaten and esteemed by some of the natives.

Irides fine lake red; length about 12 inches; of wing $6\frac{1}{2}$; tail 5; tarsus nearly an inch.

61.—*C. fimbriatus*, Temm.—*Smaller spine rump.*

This, like the last species, is most abundant in woody country, and therefore on the West Coast, but is also found in the other parts of the country in avenues or thick hedges, gardens, &c. It is to be met with at all seasons on the Western Coast, but I think only repairs to the Carnatic (I speak particularly of the country about Trichinopoly), after the commencement of the rainy season there, in October or November: at all events it is much more numerous then. This spine rump hunts singly, or in small families of both sexes, flying from tree to tree, slowly and carefully examining the foliage, prying searchingly all around, and under the leaves, to discover a suitable morsel. It continues its search hopping, flying from branch to branch, till the tree has been well inspected, when the flock flies off together to another tree. Its favourite food is caterpillars, pupæ, grubs, and soft insects, but also ants and coleopterous insects. My specimen, both of male and female, correspond pretty exactly with the description in Lesson '*Manuel d'Ornithologie.*' The females appear much more numerous than the males, but *this* may partly be accounted for by the *young males* being clothed in the female garb.

Irides reddish dark brown; length about $7\frac{1}{2}$ inches; of wing 4; tail 3; tarsus about $\frac{7}{8}$ ths.

62.—*C. Canus*.

I have not hitherto been fortunate enough to meet with this species of *spine rump*, and there is such a contrariety of description in the published accounts I have met with, that I wish Colonel Sykes had given a description of his species, which I suspect after all only to be the adult male of the last.

GENUS PHÆNICORNIS, Sw.—*Red bird*.

63.—*Ph. princeps*, Vig.—Gould Cent.—*Large red bird*.

I shot one specimen of this splendid bird in a dense and lofty jungle in Goomsoor, hopping about the upper branches of high trees, and only once again observed it. At this time, which was just before the commencement of the hot season, and when insects were least abundant, it descended to the ground to pick up an insect, and returned immediately. This habit, I, on several occasions about the same time, saw resorted to by other birds, from whose usual manners it was equally foreign, viz. true flycatchers (*M. Banyumas* and *M. Melanops*); on the same tree was a grey and yellow bird of the same size, which, judging from analogy, was the female. In the stomach of the one I killed were the remains of various insects chiefly coleopterous.

Length of my specimen 9 inches; of wing $4\frac{2}{10}$ ths; tail 4; tarsus nearly $\frac{1}{10}$ ths.

This splendid species differs from *P. flammeus*, which sometimes nearly approaches it in size, in the length of the wing and tarsus, as well as in the infinitely richer hue of the red.

64. *P. Brevirostris*, Vig.—Gould's Cent.—*Short billed red bird*.

I was also fortunate enough to meet with this well marked and distinct species in Goomsoor, and procured three individuals, an adult male, a young male and a female. It had the same manners as the last, frequenting the tops of high trees—on one occasion, however, I observed a flock of the females hunting together over a thick hedge. In the stomach of those I killed fragments of coleopterous insects only were observed.

The short billed red bird has been most justly separated from *P. flammeus*, as well from its deeper shade of plumage as from various structural points of difference. The female does not differ from that of *P. flammeus*, except in the structural points, and a somewhat duller shade of yellow. The young male I possess has the grey upper plumage of the female—beneath white with a reddish tinge, and the red marks on the wings and tail nearly developed.

Length 8 inches; tail 4; wing $3\frac{1}{2}$; tarsus less than $\frac{6}{10}$ of an inch; feet much smaller than *P. flammeus*. I see that Swainson supposes this species to be synonymous with *P. miniata*.

65. *P. flammeus*.—*Musc. flammea*, Auct.—*Pharee Boolul Chusm* H.—*Common red bird*.

This species of red bird is tolerably abundant in most of the lofty jungles of the Western Coast—both above and below the ghats; and I have seen it as high as 5000 feet on the Coonoor ghaut of the Neilgherries. It is, I think, more abundant on the table land of the Wynnad, than in most other places I have observed it in. It is a restless bird, wandering from tree to tree, examining the loftiest branches in search of various insects and their larvæ, which constitute its favourite food. It is either found singly or in small parties of three or four, and the sexes are generally seen apart from each other.

Irides dark brown; length 8 to $8\frac{1}{2}$ inches; of wing, 3 $\frac{7}{10}$; tail $3\frac{1}{2}$ to 4; tarsus not quite $\frac{7}{10}$.

66. *Phænicornis peregrinus*, Vig.—Gould Cent.—*Parus peregrinus*, Auct.—*Boolal Chusm*, H.—*Small red bird*.

This pretty and lively little bird is more numerous and extensively spread than any of its congeners, and is to be found in most woody situations even in the dry Carnatic, in jungle and in thick hedges and avenues occasionally, and in some of the larger topos in the Deccan it may also be occasionally seen. It is, however, most abundant on the West Coast. It is a restless and active little creature, ever engaged in diligently examining the extreme branches of trees, gleaming among the foliage, and hanging from the slender twigs like a titmouse. It feeds upon various larvæ (which are its favourite food) and small insects.

Irides brown; length 6 inches; of tail 3.

FAM. MERULIDÆ.—*Thrushes*.SUB-FAM. BRACHYPODINÆ.—*Short legged thrushes, or Bulbuls*.GEN. HYPSEPETES, Vig.—*Drougo or black Bulbul*.67.—*H. Ganeesa*, Sykes Cat. No. 49.

I have not yet been fortunate enough to meet with this bird (which I see has been lately figured in Jardine's Illustrations of Ornithology, new series No. 1), so transcribe part of Colonel Sykes' account. "Flight very rapid, found only in the dense woods of the ghauts, stony fruit found in the stomach."

63.—*H. Neilgherriensis*.—New species.—*H. psaroides*, Vig.—Gould Cent. H. B.—*Neilgherry Black Bulbul*.

This species of *Hypsepetes*, though very strongly allied to the Himalayan species, I am inclined to consider distinct, as it varies permanently in size and some markings.

Descr.—It has the same glossy black lanceolate feathers of head and hind neck, the same grey tint of the body, and blackish tail; but differs in having the quills entirely black, instead of being grey, tipped only with black; wants the small black streak running back from the eye, and has the under tail coverts edged with white.

Length about 10 inches; of wing 5; tail $1\frac{2}{3}$; tarsus $1\frac{6}{10}$; bill and legs orange red; irides brownish red.

If new, it may be named as above from its locality, or it might be named *Atripennis*, in contradistinction to the Himalayan species it so much resembles. I have hitherto only found this bird on the summit of the Neilgherries, in the dense woods of which it is very abundant. It lives in small flocks, feeding on various berries and fruit, generally on the top of trees. I on no occasion found any thing but fruit of different kinds, but chiefly stony, in its stomach. It usually keeps up a lively and agreeable warbling, which it continues during its occasional flight from one tree or patch of wood to another. Its flight is undulating, and not very rapid. Its manners on the whole much resemble those of the bulbuls, with which they have been classed, and justly so, I think by awinson.

GENUS BRACHYPUS, Swainson.

69.—*B. rubineus*.—New species.—*Inos concolor*, Temm.?—*Ruby throated Bulbul*.

This species approaches in colour the *Turdus dispar*, Horsf. (or *T. concolor*, of Temm. P. C. 137), a native of Java, but appears, from the description I possess, to be distinct, and if so may be named as above. I have only met with the ruby throated bulbul in the forests of Malabar, and even here it is rare; it frequents the more open spaces of the jungle, and generally prefers thickets in the neighbourhood of waters. It lives in small families, is sprightly and active, hopping about the smaller branches of trees, uttering now and then its pleasant twitter, much in the manner of the common crested bulbuls. It lives on various fruit and berries.

Descr.—Head and cheeks pure glossy black; plumage above yellowish green; chin spot black; throat of a beautiful shining ruby red; the feathers much divided and somewhat bristly; rest of the plumage beneath yellow: quills with a tinge of dusky on their inner webs; feathers of the back loose and discomposed; irides light yellow; bill black; legs greenish dusky. Length about $6\frac{1}{2}$ inches; of wing 3; tail $2\frac{3}{4}$; tarsus rather more than $\frac{1}{2}$ an inch.

70. *B. priocephalus*.—New species.—*White eyed Bulbul*.

Descr.—Crown of head, occiput and throat bluish grey—forehead siskin green. Backwings and beneath, oil green, lighter towards the vent. Rump feathers light yellowish green, broadly streaked with black, as in '*B. entilotus*,' Jard. Tail, with centre feathers greenish, broadly edged with grey, lateral do. black, also broadly terminated with light grey. Under tail coverts light grey; irides bluish white; bill and legs of a green horn colour; length 7 inches; wing 3; tail $2\frac{1}{10}$; tarsus about half an inch.

I only once saw and obtained a specimen of this bird near the foot of the Peria pass in Malabar. Its manners and food are similar to the last. It very much resembles in colouring a new species lately figured in Jardine's New Ser. of Ill. of Ornith. *B. entilotus*, an inhabitant of Malacca, especially in the markings of the rump feathers, but is less, and otherwise varies. Stony fruit found in its stomach.

GEN. CHLOROPSIS, Jard. and Selby.—*Emerald or green Bulbul.*

71. *C. Aurifrons*, Jard. and Selby.—*T. Malabaricus*.—*C. Sonnerati* Jard. female.—*Golden fronted green Bulbul.*

I have only found this elegant species in the forests of Malabar and other parts of the West Coast. On the Coonoor pass I have seen it above 4000 feet high. It hops and flies actively about the branches of trees, frequently at no great height, and lives on both fruits and insects, chiefly the latter, which it seizes on the branches or leaves. It is generally found in pairs or singly, occasionally three or four together. Irides light yellowish brown; bill blackish; legs cinereous.

The female, which either appears to be undescribed, or to be the *C. Sonnerati*? of the proposers of this well marked genus, differs from the male in wanting the golden forehead, and in the black gorget and blue maxillary streak, being somewhat smaller. Bill rather more lengthened than in next species. Length $7\frac{1}{2}$ to 8 inches; wing $3\frac{5}{16}$; tail nearly 3; female somewhat smaller.

72. *C. Cochensinensis*.—*Melliphaga Javanica*, Horsf.—*Common green Bulbul.*

This species is much more generally dispersed than the former one, being found wherever there is thick or lofty jungle. I have seen it in Goomsoor, and the Tapoor pass on the eastern side of India, and it is far from being uncommon on the West Coast, even in wooded cultivated ground and gardens. Its habits are similar to the last. I have seen it, while feeding on insects, take an occasional flight of a foot or two, to secure an insect that was attempting to escape. Its most usual food however, is fruit of different kinds. As there appears to be some doubt of the plumage of both sexes, I shall here briefly describe their differences.

Male, with chin, throat and gorge deep black, surrounded by a greenish yellow band, which extends through the eyes to the forehead—maxillary streak, hyacinth blue.

Female, with parts black in male of a light bluish green, surrounded (as in the male) with the yellowish band—maxillary streak light azure. Length $7\frac{1}{4}$ inches; wing $3\frac{1}{2}$; tail $2\frac{3}{4}$. Irides light brown; bill dusky; legs cinereous.

GENUS IORA, Horsf.

73. *I. tiphia*.—*Motac-typhia*, Brown, Ill. Zool. pl. 36.—*Show Bheegah*, or *Show Bheegee*, H.

This is one of the most common Indian birds in most part of the country, daily to be seen in almost every garden. Its habits are even still more active and restless than those of any others of this family, being much like those of the titmouse. It may be seen diligently and carefully searching the smaller branches and twigs of trees, climbing actively among them, peering under the leaves, and occasionally hanging, like a titmouse, from a slender twig, all the while keeping up a loud warbling strain, or a low querulous sort of note, very different from each other. It is not confined to cultivated ground, but is also an inhabitant of the open spaces of jungles. Its flight is performed by a succession of quick vibrations of the wing, and causes a loud whining sound. Its food consists of various insects, and their larvæ, spiders, &c. I have only found the male bird at certain seasons in its full plumage of black and yellow, and even then you seldom meet with two clothed exactly alike. On this account, I am inclined to think, that it is only in the breeding season that the black plumage is put on, and that the *Iora scapularis* of Horsfield may be identical with both sexes of this in its ordinary plumage. This supposition, however, needs further enquiry. I once in the West Coast, in the month of September, met with a nest of this species in the fork of a low tree. It was more neatly and carefully made than any other of the few nests I have seen in this country. It contained young ones. It gets its Hindustanee name from its cry, being said to repeat the syllables 'show bheega,' 'show bheega,' before rain.

GENUS TRICHOPHORUS, Temm.—*Bristle necked Thrush*.

74. *T. virescens*.—*Ixos virescens*, Temm. P. C.—*White browed bristle neck*.

Although I am inclined to think that this species of bulbul may enter into Swainson's genus, *Andropadus* rather than *Tricophorus*, as I have in some cases, though not in all, detected a slight crenation at the tip of the upper mandible, and the bill is shorter than in *Tricophorus*, yet I have for the present kept it in that genus, as its nuchal hairs are very distinct. It is a widely dispersed, though not very common bird,

except in some few localities. It prefers a wooded district. I have found it in Goomsoor in open jungle; in the Carnatic seldom, and only in the vicinity of jungle, in thick hedges and bushy nullahs; in the neighbourhood of Coimbatore; in low thickets, in the Wulliar jungle, and very abundant in a bushy tract along the West Coast. It flies actively along from bush to bush, hiding itself in the thickets; has a loud clear thrush-like warble, and feeds entirely on fruit of various kinds. Irides blood red; bill black; legs dusky. Length $7\frac{1}{2}$ inches; wing $3\frac{1}{2}$; tail $3\frac{1}{2}$; tarsus nearly $\frac{9}{10}$.

75.—*T. Indicus*.—*Turdus Indicus*, auct.—*Merle olive des Indes*, Vieillot—Encyc. Method. p. 667.

I am not aware whether this well marked species of *Tricophorus* has been named or not, but as it appears to correspond with *Turdus Indicus* of the older authors, I have no hesitation in applying that specific name.

This bristle necked thrush frequents only thick and lofty jungle on the West Coast, being found occasionally as high as 5000 feet. It lives in small flocks, flying from tree to tree, and keeping up a continual, and pleasing bulbul-like warble. In all the specimens I have examined, I have found fruit only in its stomach, but from the strong bristles at the base of the bill, I suppose it may, at certain seasons, partake of insects. I add a brief description.—Above olive green; eye streak extending to the forehead, and beneath yellow; quill feathers dusky on internal web; tail olive, beneath shafts of the feathers yellow*; bill and legs black; irides blood red. Length $7\frac{1}{2}$ to 8 inches; wing 4; tail $3\frac{1}{2}$; tarsus rather more than $\frac{7}{10}$.

GENUS HÆMATORNIS, Sw.—*Crested Bulbul*.

76.—*H. Cafer*.—*Lanius Emerica*, Shaw.—*Bulbul*, H.—*Common Bulbul*.

This is one of the most common and abundant birds of India, frequenting both gardens and cultivated ground, and low bushy jungle. It is never found in dense jungle. It is found even on the Neilgherries at Coonoor and Kotagherry at 6000 feet of elevation; but I have not observed it in the more elevated and central parts of the hills. It lives in

* I see a new species from the Himalayas has lately been described by Gould (Proc. Zool. Soc. 1836), which if really distinct differs only in being crested.

pairs, or small families, feeds chiefly on fruit, being destructive to pease and other garden produce, but also occasionally on insects, frequently repeating its usual note while hopping about the branches, and wandering from tree to tree. It flies in a direct manner with a quick flapping of its wings, and usually uttering its note when on the wing. It is very commonly caged in the Carnatic, and kept for fighting, which it does with some spirit, and it is said that the antagonists often seize each other by the red under tail coverts, and endeavour to pull them out. The bulbul is also said to imitate the notes of various other birds in confinement.

77.—*H. jocosus*.—*Lanius jocosus*, L.—*Pharee Bulbul*, H—*Hill or jungle Bulbul*.

This sprightly and pleasing bird is in general found in the Peninsula, only in lofty jungle, as well as on the East Coast (as in Goomsoor), as the West Coast; but I have also seen it in low bushy ground on the sea coast, between Calicut and Tellicherry, and it is most abundant on the summit of the Neilgherries, in gardens, and shrubby ground. It is a most lively and active bird, always on the move, and warbling its pleasant chirruping notes, which are much sweeter than those of the common bulbul. It lives chiefly on fruit and seeds, but also on insects occasionally, which I have seen it picking off the ground. Its flight is like that of the last, steady, but not rapid, and its crest is never erected during flight, but always the moment it alights. A deserted nest was pointed out to me, in a low shrub close to a house in Ootacamund, as that of the hill bulbul. It was very neatly made with moss, lichen, small roots and twigs, and well lined with hair and down.

Irides yellow brown; length varies from 7 to 8 inches. Specimens from the Neilgherries are larger than those from the coast.

SUB-FAMILY MYOTHERINÆ, Swainson.—*Ant Thrushes*.

GENUS MYOTHERA, III.

SUB GENUS BRACHYPTERYX, Horsf.—*Short-wing*.

78.—*B. atriceps*.—New species?—*Black-headed short wing*.

I know not if this little species has been described or not, so shall for the present consider it as new. It is only found, as far as my observations extend, among the thickest underwood in dense lofty jungle. I have seen it in the Trichoor and Wurguncherry jungles, and also on the Coonoor ghaut, and in the Wynaud. It is a restless lively little bird

living in small flocks of five or six, and continually hopping about the low thick bushes and underwood, with an incessant low twittering note, and has much of the general habits of the *Thimaliæ*. In its stomach I found small mantides, grasshoppers and other insects.

Descr.—Head and cheeks black; back, wings, tail, and under tail coverts brownish olive, darkest on tail and wings; below white with a tinge of olive, brown on the sides, and towards the vent; feathers of back and rump much discomposed. Length nearly $5\frac{1}{2}$ inches; of tail 2; of wing $2\frac{3}{10}$ ths; tarsus $1\frac{2}{10}$ ths. Irides pale orange buff.

GENUS MYOPHONUS, Horsf.—*Fowl Thrush*, Swainson.

79.—*M. Horsfieldii*, Vigors.—*Large blue Thrush*.

I have hitherto only seen this bird twice: once in the Trichoor jungle, hopping on the ground like a black bird; and again in the Segoor pass of the Neilgherries, flying before me from tree to tree near the ground. I have also seen a specimen shot in the Pulney hills, and several procured in the neighbourhood of Cannanore. Length 12 inches; of wing $6\frac{1}{4}$; of tail 5; of tarsus $1\frac{2}{10}$ ths of an inch. Bill and legs black; irides dark brown.

GENUS PITTA, Temm.—*Ant Thrush*.

80.—*P. Brachyura*.—*Nou-rung*, H. (i. e. *nine coloured bird*).

Though by no means common, this bird is occasionally met with in gardens and topes in the Carnatic, as at Madras and Trichinopoly, during the cold weather only, I believe. It however generally frequents high jungle, and is therefore more common on the West Coast than in other parts of the peninsula; I have also seen it in Goomsoor. It feeds on the ground in small flocks, generally, but not unfrequently singly, and readily perches on being disturbed.

In the few instances when I have obtained specimens of the *Nou-rung*, I have not found their food to consist of ants, but of other insects, chiefly coleopterous. Length $6\frac{1}{2}$ inches; of wing $4\frac{1}{4}$; tail $1\frac{1}{2}$; tarsus $1\frac{4}{10}$ ths. Irides, hazel brown; bill black; legs yellowish pink.

SUB-FAMILY MERULINÆ.—*True Thrushes.*GENUS PETROCINCLA.—*Rock Thrush.*

81.—*P. Pandoo*, Sykes.—*P. Maal*, Sykes.—*Indian Rock Thrush*—*Shamah*, H.

In accordance with Colonel Sykes' opinion, I place this bird as distinct from the *P. Cyanea* of Europe, which it much resembles. The *Shamah* is a rare bird in the southern part of the Peninsula. I have only seen it on the Neilgherries, near Coonoor and Kotagherry, in bushy and rocky valleys. Towards the more northern parts it becomes more frequent. I observed it several times about the central part of the table land, both in the neighbourhood of villages, and in rocky valleys and hills. About Jaulnah it is far from being uncommon, frequenting chiefly the old mud walls of villages, and rocky hills, and occasionally seen about houses and stables in cantonment, perching now and then on the house tops. I first observed it this year (1839) in the beginning of October, coming in at the same time with many other birds, and it stays here (Jaulnah) till April. It is always solitary, feeds on various insects. I have found the *P. maal*, of Sykes, in the same localities as his *P. pandoo*, and consider it as the young bird or female, which is also the opinion of Mr. Elliot. From his notes I take the following extract:—"very tame, often coming into houses and hopping about verandahs; has a fine song, and is trained and domesticated by faqueers and others; common on the coast from Vingorlah to Cambay." Length $8\frac{1}{2}$ inches; wing nearly 15; tail 3; tarsus 1 inch. Irides deep brown; bill and legs black.

GENUS PETROPHILA, Swainson.

82. *P. cinclorhyncha*, Sw.—*Petrocincla cinclorhyncha*, Vigors.—Gould, Cent. pl.

This bird certainly differs from the last in its habits, as well as form, but the generic name adopted by Swainson is, I think, unfortunate, as I have hitherto only met it perched on trees in dense and lofty jungle in the Coonoor pass of the Neilgherries, on the summit of the hills near Coonoor—and once in the jungles of Malabar, at no great elevation above the sea. On one occasion only I observed three or four together; at all other times it was solitary. Its stomach contained various fruit and berries.

A young bird, I possess, is of a brownish olive colour above, with a tinge of blue on the shoulders and tail, rump feathers edged with rusty; beneath white, much tinged with rusty on breast, and the feathers barred transversely with olive brown. Length $7\frac{1}{2}$ inches; wing rather more than 4; tail $2\frac{1}{4}$; tarsus $\frac{9}{10}$ ths of an inch; irides brown.

GENUS TURDUS, L., Auct.—MERULA, Sw.

83.—*T. simillimus*.—New species.—*Neilgherry black bird*.

This black bird, generally considered by residents on the Neilgherries to be identical with the European species, so closely resembles it, that I was unable to decide accurately from the descriptions I possess, till I procured some specimens from home of the British bird. It however differs invariably (besides in other points hereafter to be mentioned) in the colour of its legs, which are always yellow, whilst those of the *T. merula* are brown (I had overlooked this point in the descriptions). The *Neilgherry black bird* has exactly the same habits and song as its European analogue, though I think in this latter respect it is surpassed by the British bird.

I have only observed it on the Neilgherries, in the dense woods of which it is very common, and may be daily heard pouring forth its charming song, especially towards evening, and in cloudy weather. It is found alone or in small families. It lives chiefly on fruit of different kinds, especially of the pleasant Brazil cherry, now so abundant in the woods there; also feeds on worms, caterpillars, and other soft insects. I possess a specimen, given me by Major Campbell, 33d N. I., who shot it on the Pulney hills, which is identical with the Neilgherry ones.

Descr.—Male bird entirely black, conspicuously darkest on the head and back of neck, lightest below, and tinged with dusky brownish. Female of a dark olive brown above, of a much lighter tint below. Bill and edges of eyelids, in both sexes, orange yellow; feet dark yellow, with a tinge of dusky in the female; claws of same colour as toes. Irides dark hazel brown. Length 10 inches; of wing a little more than 5 inches; tail rather more than 4; tarsus nearly $1\frac{3}{4}$ ths.

The young birds are of a similar colour to the females; the feathers especially of the head, neck and breast, have a central streak of a light brownish yellow. In the European bird, this central streak is of a much darker and more rufous hue. One of the chief points of difference, be-

tween this species and the European bird, is the length of bill, which is considerably longest in the Neilgherry bird. This, with the difference of colour of legs and claws, and the distinct (though slight) variation of the tint of the plumage are sufficient, I should imagine, (independent of its difference of locality), to stamp this as a distinct and independent species. It would be interesting to know if this species was confined to the small, but highly elevated table lands of the South of India, or had a more extended geographical distribution.

84.—*T. cyanotus*, Jard. Ill. Ornith.—46.—*Blue backed Thrush*.

This neatly marked species is found only in dense and lofty jungles. I have seen it in Goomsoor, in the Malabar Coast, and most numerous in the bamboo jungles of the Wynaud, though far from being common even there. It is always found solitary, perched on the lower branches of trees, and its flight is low and rapid. Feeds chiefly on stony fruit. Colonel Sykes says also on *cicadae* and other insects. I never heard it utter any note. Irides dark brown; length 8 inches; of wing $4\frac{1}{2}$; tail nearly 3; tarsus $1\frac{2}{10}$ ths of an inch.

85.—*T. varius*, Horsf.—*Elegant Thrush*.

I only once saw and obtained a specimen of this elegantly marked and formed species of thrush, in a small tope close to Rumbah, on the Chilka lake, in the neighbourhood of a high jungle; its flight was very rapid. Its stomach contained various fruit and seeds. Irides dark hazel. Length about 10 inches; of wing rather more than $5\frac{1}{2}$; tail $3\frac{3}{4}$; tarsus $1\frac{2}{10}$ ths. The first quill is very small; the second slightly shorter than the fifth, the third longest and perceptibly longer than the fourth. Bill brownish; legs and feet dirty yellow

SUB FAMILY CRATEROPODINÆ, Swains.—*Babblers*.

This sub-family has received a most appropriate name from Swainson, who has, I think, most justly located in it the various Indian genera *Pellorneum*, *Crateropus*, *Pomatorhinus* and *Thimalia*, which much resemble each other in their manners, though they do not in general evince a partiality for the neighbourhood of water, nor do they inhabit the thickets of reeds and other aquatic plants, as said, in Swainson, to be the general habits of the family. The notes of all the species are loud.



Crateropus Cachinnaus

Laughing Thrush of the Neilgherries

Drawn on Transfer Paper by J. Murphy

Printed by W. Winchester

GEN. PELLORNEUM, Swains.

86.—*P. olivaceum*?—New species.—*P. ruficeps*, Sw. N.Z?—*Red headed Babbler*.

Descrip.—Above and sides of a dark brownish olive; head, and back part of neck, rusty red; chin white; breast and belly white; many of the feathers, of the breast especially, broadly centred with olive. Irides brick red; bill above dusky; below dirty yellow; legs yellow with a tinge of flesh colour. Length $6\frac{1}{2}$ inches; wing $2\frac{3}{4}$; tail $2\frac{4}{10}$ ths; tarsus $1\frac{1}{10}$ th.

I have not met with any description of this bird, but as the species given as type of this genus has been called *ruficeps* by its talented founder, I strongly suspect, that, as the name is applicable to this species, it may be the one intended, so have put it as a synonym, till further information is obtained.

I have met this curious little bird in the jungles of Trichoor, Wurguncherry and Manantoddy, but it is by no means common. It associates in small flocks, among the low shrubs and thickets in lofty jungle, descending to the ground, where it hops about in search of various insects, and from thence running up and climbing the small branches, keeping up a continual chattering, and every now and then one of them, perched on a low bough, elevating his head and neck, and giving utterance to a sort of crowing laugh, very similar to that of the *Crateropus* next described. On being disturbed, they retreat through the trees and underwood, at no great height from the ground, and indeed they never appear to climb to any height.

GEN. CRATEROPUS, Sw.—XANTHOCINCLA, Gould.—GANULAXIS, Less.

87.—*C. cachinnans*.—New species?—*White browed Babbler*.—*Laughing Thrush of the Neilgherries*.

Descrip.—Above and under tail coverts of a dark olive, head dusky black, eyebrows and eyelids white, lores and chin black, ears, throat, breast and belly bright rufous. Irides fine lake red; bill black; legs dusky greenish. Length about 9 inches; wing $3\frac{7}{10}$; tail nearly 4; tarsus $1\frac{4}{10}$.

This noisy bird is to be met with in all the thick woods on the summit of the Neilgherries, and its loud laughing call is often heard when the bird itself remains unseen. I have met it in no other locality.

Like others of the family it lives in small flocks, forages about the thick brushwood, and densely interwoven woody creepers. On being observed, they hop and climb up the stem and thick branches of the nearest large tree; but they do not appear to ascend to the tops of trees. I occasionally, though rarely, observed them hopping and feeding on the ground. As might be expected from the structure of their wings, they fly heavily, and never to any distance. The cry of the 'laughing thrush' is very peculiar, and once heard cannot be forgotten. It is a sort of cracked, punch and judy laugh, and is no sooner commenced by one, than several others take up the chorus. Their chief food is fruit of various kinds, also caterpillars, grubs and various other insects.

88.—*C. Delesserti*.—New species?

The only specimen I have seen of this bird was in the collection of M. Delessert, who was some time on the Neilgherries. It was killed near Kotagherry, and, if new, may be named in honour of that gentleman, who took home with him large collections.

Descr.—Irides light red; bill yellow at the base of the lower mandible, brown above; head and nape brownish black; chin, throat and breast white; shoulders and back dark rufous, growing lighter towards the tail; wings reddish black; belly and vent light reddish brown; tail black; legs pale reddish. Length about 11 inches; wing $4\frac{2}{10}$ ths; tail $4\frac{3}{10}$ ths; tarsus $1\frac{5}{10}$ ths.

SUB-GENUS POMATORIINUS, Horsf.

89.—*P. Horsfieldii*, Sykes.—*Horsfield's Babbler*.

I have seen this bird, but rarely, in Goomsoor, in bamboo jungle, in thick and tangled wood near Manantoddy, and among under-wood in the neighbourhood of Kotagherry. It has a very loud cry which has been well expressed by Colonel Sykes, as, 'hoot whoot, whoot,' to which the female (when they are in pairs) answers 'hoot, hooee.' I saw it once in pairs, at other times in small families, keeping up a continual loud call, and climbing about the branches with great facility. It is a remarkably shy and wary bird. Various small insects were found in the stomach of those I procured.

Irides dark red; bill yellow; horn colour at the base of the upper mandible; legs greenish black. Length 9 to $9\frac{1}{2}$ inches; wing $3\frac{6}{10}$ ths; tail $3\frac{3}{4}$; tarsus $1\frac{2}{10}$ ths.



GENUS THIMALIA, Horsf.

90.—*T. Malcolmi*, Sykes.—*Large Babbler*.—*Ghoghoye*, H.—*Gougya*, Can.—*Kokuttee*, M.

This large *Thimalia* has a peculiar distribution. In the South of India it is only found on the elevated table lands. I have observed it on the Neilgherries near Coonoor and Kotagherry, in low bushy ground, and seen specimens from the Shevaroy Hills near Salem. It is not found in the Carnatic, Northern Circars, nor in the more southern parts of the Deccan, but towards the north begins to occur more frequently, and at Jaulnah is very common. The *Ghoghoye* frequents topes in the neighbourhood of villages and cultivation, also occasionally low and open jungle. Lives in small troops, feeding chiefly on the ground, especially around the trunks of large trees. It keeps up a continual chattering, occasionally changed to a louder cry, resembling 'quey, quey, quey, quo, quo,' pronounced very gutturally. Its flight, like that of all the species of *Thimalia*, is feeble and struggling. Mr. Elliot says "when the Shikra (*F. Dukhunensis*) is flown at them they defend each other with great courage, mobbing the hawk, and endeavouring to release the one she has seized." Lives on various grains, seeds, and insects, chiefly grasshoppers; I have seen one attempt in vain to catch a grasshopper on the wing.

Irides light yellow. Length $11\frac{1}{2}$ inches; wing $4\frac{6}{10}$ ths; tail $5\frac{1}{2}$; tarsus $1\frac{3}{10}$ ths.

91.—*T. Somervillei*, Sykes.—*Jungle Keir or Kayr*, H.—*Jungle grey babbler*.

I have always found this species of *Thimalia* in tolerably dense jungle, and never in open country, like the next one which much resembles it. It is far from being uncommon in most jungles. I have seen it in Goomsoor, in the Tondiman's country, in the Carnatic, and in most of the jungles of the West Coast. I have also lately procured it in a densely wooded nullah in low jungly country in the neighbourhood of Jaulnah. It has similar habits to others of the genus living in tolerably numerous and noisy troops, and feeding on various grains and insects.

Irides pale yellow: bill and feet dirty yellow. Length 9 inches; of wing $4\frac{1}{10}$ th, tail $4\frac{1}{2}$; tarsus $1\frac{3}{10}$ ths.

I may here remark that my specimens from two localities differ somewhat from each other in the shade of their plumage, and also slightly from Colonel Sykes' description. This may depend on difference of age. A specimen from Goomsoor, however, has a bill remarkably differing from those of the others, in having the edge of both mandibles, especially of the under one, scooped out, as it were, from the centre to the tip of the bill, so as, when they are closed, to leave an open space. I pos-

sess but one specimen from this locality, and so am not aware whether it is an accidental or permanent character. If the latter, it will, with some other slight variations, constitute it a separate species; and from the peculiar distribution of others of this truly Indian genus, and the general similarity of colour, as remarkably shown in the likeness of this to the next species, I am inclined to think that hereafter other species may be separated, closely allied in plumage and general structure, yet differing in some permanent character, both of structure and plumage, as well as in geographical distribution. This, however, deserves further investigation.

92.—*T. grisea*.—*T. griseus*, Lath.—*Keyr*. II.—*Kullee Couravee*, Tam. (*Hedge bird*).—*Dirt bird* of some Europeans.—*Fouille-merde* of French in India (Vieillot).—*Common Grey Babbler*.

This species so much resembles the last in its general appearance, that I was long unsatisfied of their distinctness, notwithstanding the striking difference of colour of the irides, and different localities of the two. This is one of the commonest birds of the Carnatic, and may be seen in every garden, and about the hedge rows, avenues, trees and tops throughout that district. I have never seen it above the ghauts, nor in the Northern Circars even, but it occurs sparingly in the more open portions of the West Coast. Like the others of its genus, it lives in numerous families of 6, 8, 10, or more. They feed chiefly on the ground, on which they may be seen to drop one after the other from the tree they may have been perched on—hop briskly about, picking up various seeds and insects, occasionally seeking the latter from heaps of dung (whence they have received their usual denomination, as well from the French as English in India, who on this account are prejudiced against them). On being driven from the ground or leaving it from choice, they fly up successively as they dropped down, and hop and climb up the large branches of the nearest tree, seldom stopping till they have nearly reached the top or the other side, from which if still watched they fly off, one after the other, to another tree. They often appear to pick insects off the bark of trees. They have an incessant loud whispering kind of chatter, which they all repeat at once, especially when feeding, or on being observed by any one. The *Keyr* is a very familiar bird if undisturbed feeding close to houses, but if closely observed or followed becomes circumspect and wary. It is also a very quarrelsome bird. I have seen the nest of this species placed in a tree at no great height. It was made of small twigs and roots most carelessly put together, and contained four bluish eggs. I shall here add a description of the Carnatic bird.

General shade of plumage light brownish grey, head and nape much lighter tint, almost whitish, and appearing so most distinctly at a distance (whence they are vulgarly called by some white headed bobs). Quills and tail brown, obsoletely barred with darker bands, central tail feathers lighter at the base, feathers of the back darkish, lightest in the shaft and at the edges, rump feathers pale fawn, much discomposed. Feathers of the chin and throat dark in the centre, at the base and extremity of a bluish white. This gives a bluish appearance to this gular band, which is distinctly separated from the surrounding plumage. Breast, belly and under tail coverts pale yellowish fawn colour, most of the feathers are bluish at the base.

Length $9\frac{1}{2}$; wing 4; tail 4; tarsus $1\frac{3}{10}$; irides silver white; bill and legs yellow. It differs from the last species structurally in the form of the bill, which is shorter and more elevated at the base, and in the hind toe also, which is shorter than in *T. Somervillei*.

Mr. Elliot has in his notes the description of a *Thimalia*, met in the Southern Mahratta Country, which appears nearly to correspond with this, the only difference I can detect from his description is in the bill and legs, which he calls "whitish." If identical it would mark a curious distribution, as I have seen it in no situation above the ghauts.

Plumage above, chin and throat, brown cinereous, shafts of the feathers lighter; head and nape, whitish, rump cinereous; tail brown, with indistinct darker bars; belly whitish like the head. Irides silver white, bill and legs white. Length $9\frac{1}{4}$ inches.

93.—*T. subrufa*.—New species.—*Junglee Keyr*, H.—*Rufous bellied Babbler*.

This apparently undescribed species is only found in thick jungle. I have hitherto only seen it in the bamboo jungles of the Wynaad near Manantoddy. It has similar manners to the others, feeding on the ground, and on being disturbed retreating to the thick clumps of bamboos, through which they make their way with much adroitness, chattering all the while, and generally contrive to conceal themselves from view. Their note is similar in character, though quite distinct from any of its congeners. Its colours mark an approach to the *Crateropi*. Mr. Elliot mentions this species in his notes as found in the jungles of the Southern Mahratta Country; so it is probably found in most of the elevated jungles along the range of the ghauts, though not as far as I have seen found below the mountains.

Descr.—Above darkish brown olive, below rufous, darkest on the neck and breast; forehead pale bluish ash colour; frontal feathers rigid; bill brown above, yellow below. Legs yellow, irides bright yellow. Length $9\frac{1}{2}$; wing $3\frac{7}{10}$ ths; tail $4\frac{1}{4}$; tarsus $1\frac{3}{10}$ ths.

94.—*T. Chataræa*, Frankl. Cat.—GEN. *Malacocircus*, Swainson?—*Doomree*, H.—*Hoonee*, Tam.?—*Striated Babbler*.

Before entering on the account of the bird, I may here introduce some excellent remarks of Mr. Elliot. He says, speaking of the *Thimaliæ* “there is another group, the *Doomrees*, differing somewhat in habit, less noisy, still in companies and flying along woody nullahs, hedge rows, bushes, &c. where they ensconce and conceal themselves.” In the three species next described there is certainly a slight difference both in structure and habits from the more typical species of *Thimaliæ*. Whether this is sufficient to entitle them to sub generic distinction or not cannot be satisfactorily determined, till a complete analysis has been made of the whole family of the *Crateropodinæ*, of which Swainson confesses that enough is not yet known to enable him to arrange them perfectly.

The *Doomree* is found all over the peninsula, in the open plains when covered with a few scattered bushes, or in low but thin jungle. It is a shy and wary bird, flying before you from bush to bush, and having a whistling sort of cry which it is frequently heard repeating. It flies low, and like others of the genus, alternately with a few rapid beats of the wing, and a sailing with outstretched wings. Feeds on various insects, caterpillars and grubs. Irides reddish brown; bill brownish; legs dirty yellow. Length 9 to $9\frac{1}{2}$; wing about 3; tail 4; tarsus 1.

95.—*T. hypoleuca*, Frankl.—*White bellied or singing Babbler*.—*Shukur Doomree*, H.?

This neatly clothed little *Thimalia*, is far from being common towards the south of the Peninsula. I have seen it in a bushy tract at the edge of the Wulliar jungle; also in hedges on low jungly districts near the base of the Shaudee mungalum hills in the Salem district, and again at Royacottah in similar situation. Near Jaulnah it is generally to be met with in the low jungle in the neighbourhood, also in woody nullahs and thick hedges. It is not unfrequently to be seen alone, but generally in small parties of four or five, which fly before you, and manage to conceal them-

selves in some thick bush. They have a low chattering when together, neither loud however, nor often heard. I have on several occasions heard a single one perched conspicuously on a bush or hedge, pour forth a remarkably sweet song. Feeds on ants and various other insects, &c. Irides deep brown, surrounded by a narrow circle of buff; bill black; edges of the nostrils and naked skin round eye, orange yellow; legs deep yellow. Length $6\frac{1}{2}$ to $6\frac{3}{4}$; wing $2\frac{7}{8}$ ths; tail $3\frac{1}{2}$; tarsus $1\frac{1}{10}$ th.

96.—*T. Hyperythra*, Frankl. Cat.—*Shah Doomree*, H. ?—*Smallest babbler*.

This small species, but for its high and strongly compressed bill, might readily be mistaken for a *Prinia* or some other of the warblers. I have seen it but very seldom, once at the top of the Tapoor pass in thick jungle, and in the neighbourhood of Jaulnah, in jungly district, in thick hedges, and thick wooded nullahs. From the dense nature of the bushes &c. it frequents, it is with difficulty observed and obtained. I have generally seen it in parties of five or six, occasionally giving out a low and indistinct sort of chattering. Fragments of various insects were found in the stomachs of those I procured. Irides yellowish brown; bill horn colour; legs flesh coloured with tinge of yellow. Length $5\frac{1}{2}$; wing $2\frac{2}{10}$ ths; tail $2\frac{1}{4}$; tarsus, nearly $\frac{9}{10}$ ths.

SUB FAMILY ORIOLINÆ.—*Orioles*.

GENUS ORIOLUS, L.—*Oriole*.—*Mango Bird* of Europeans in India.

97.—*O. aureus*, Gmel.—*O. Galbula*, Sykes' Cat.—*O. Kundoo*, Sykes—*Young bird*—*Peebeck*, H.—*Indian Oriole* or *Mango bird*.

This species, generally considered to be identical with the European, *O. Galbula*, differs in the black eye-streak extending to some distance above the ear coverts, and in its shorter wing.

Colonel Sykes says of this bird "very abundant in the Deccan just before the rains." In the Carnatic it is most abundant, I think, during the cold weather, disappearing or nearly so during the hot months. This corresponds with the period of their greatest abundance in the Deccan. It is most numerous in the West Coast, and well wooded situations; frequents topes, gardens, avenues and large single trees, feeding on various fruit, especially the fig of the banian tree. It is not met with in thick forest jungle. Its flight is undulating. It has a loud

mellow plaintive cry, something resembling *pee-ho*. Length $9\frac{1}{2}$; wing $5\frac{1}{2}$; tail $3\frac{1}{2}$; tarsus $\frac{8}{10}$ ths; bill brownish red; irides fine lake red; feet slate colour.

The *O. kundoo*, of Sykes I consider the young bird.

98.—*O. melanocephalus*, L.—*Black headed Mango bird or Oriole*.

This species is in general only met with in thick and lofty jungle, but in parts of the West Coast, as about Palghaut and Trichoor, it is common in topes, avenues and gardens. I have seen it also in Goomsoor in open jungle, but not in the Carnatic. Like the last, it is seen singly, or in pairs. Length 9 inches; wing 5; tail $3\frac{1}{2}$.

99.—*O. Chinensis*, Gmel.—*O. hippocrepis*, Wagler.—*O. Maderaspatanus*, Frankl. Cat., Young bird?—*Black-naped Oriole*.

I have not myself observed this species of *Oriole*, but find it recorded in Mr. Elliot's notes, as occurring sparingly in the jungles of the Southern Mahratta Country.

GENUS IRENA, Horsf.

100.—*I. puella*, Horsf.—*Edolius puellus*, Temm.—*Fairy blue bird*.

This most lovely plumaged bird is far from being uncommon in many of the lofty forest jungles of Malabar. I have seen it in the jungles near Palghautcherry, Trichoor, the Wynaad, and on the Coonoor ghaut, as high as 4000 feet and upwards. It is only found in the densest portions of the jungle.

The fairy blue bird lives generally in small parties of four or five, or more, occasionally in pairs, frequents the loftiest trees near their summit, and feeds on various fruit and berries. It has a loud, mellow, agreeable warble, which it is frequently heard repeating; by which I have generally first detected their presence in the thick and umbrageous parts of the forest they inhabit. As this bird was not observed either by Mr. Elliot, or Colonel Sykes, I presume it does not extend far to the northward. In one or two instances, I observed two or three hairs arising from the nape, as in the *Tricophori*. Irises fine ruby red; bill and legs black. Length 10 inches; wing $5\frac{1}{4}$; tail 4; tarsus $\frac{6}{8}$ ths.

FAM. SYLVIADÆ.—*Warblers.*SUB FAMILY SAXICOLINÆ—*Stonechats.*

GEN. GRYLLIVORA, Swains.—KITACINCLA, Gould.

101.—*G. intermedia*, Sw.—*Gracula Santaris*, L.—*Turdus Amœnus*, Horsf.?—*Pastor*, Temm.—*Ian. Mindanensis*, Auct.—*Little Indian Pie*, Edw. pl. 181.—*Dial bird*, Lath.—*Dayyur or Deyr*, H.—*Large or Magpie Robin*.

This bird, so long with others of its genus banded about by authors, has at length, I hope, found a firm resting place among the *Stonechats*, to which it is certainly most closely allied in manners, as well as in structure. I think that this generally spread Indian bird, is referable to Swainson's* species named as above. It is far from being numerous in the Carnatic, or Deccan, except in well wooded situations; is more so in the Northern Circars, but most abundant on the Western Coast, as well in the jungles, as in gardens, avenues, topes, &c. It is solitary, frequents thick trees and bushes, feeds on the ground, flying down from a low branch, its usual perch, and frequently hopping a few steps on the ground, jerking its tail well up every now and then. On securing an insect it flies back again to its perch, elevating its tail on reseating itself, and uttering a pleasant warble. Towards evening it may often be seen near the top of some lofty tree in the jungle, pouring forth its agreeable song; which, however beautiful, must yield the palm to that of the next species mentioned. It is occasionally caged for its song. Its chief food is small grasshoppers and similar insects. Irides hazel brown; bill black; legs dusky. Length $7\frac{1}{2}$ to 8 inches; wing about 4; tail $3\frac{8}{10}$ ths; tarsus $1\frac{1}{10}$ th.

I have hitherto procured so few specimens from different localities that I cannot say whether Swainson's new species, if it be from India, (*G. brevirostra*) be well founded or not. I possess a specimen shot in thick jungle which certainly has a smaller bill than the common species, and only 3 of the tail feathers on either side are pure white, the next one being edged with black; and as this, though a young bird, is the only one I shot in high jungle, it may turn out to be a distinct species. Another species, not uncommonly seen in cages in the Carnatic, is, I

* V. Swains. Classification of Birds. Part 5.

think, the *G. magnirostra* of Swainson—this I have hitherto not met in a state of nature, and it is said to be brought over from Malacca, Ceylon, Java, and other Eastern Islands. It sells for a high price, and sings most charmingly. •

102. *G. longicauda*, Swains.—*Turdus macrourus*, Gmel.—*Long tailed thrush*, Lath.—*Long tailed Robin*.—*Indian Nightingale*.—*Albeka*, H.

This most charming songster of the forest, is unfortunately rather rare, and only found in the most retired and impervious parts of the thickest forest jungle. I have seen it in the bottom of the Coonoor pass, and in the greatest abundance in a tract of forest west of Sultan's Battery, in the Wynaad; in both places in the densest thickets. It is solitary, perches on low branches, and hops to the ground to secure a grasshopper, small mantis, or other soft insect. When alarmed it flies before you from tree to tree at a low height. Its song is heard in the greatest perfection towards evening, and is certainly surpassed by no Indian bird, if indeed it is by the celebrated Nightingale. I believe it is occasionally caught and caged for its song in the Northern provinces, and sells for a high price at Calcutta. Irides hazel brown; bill black; legs pale flesh colour. Length 12 inches, of which tail nearly 8; wing $3\frac{3}{4}$; tarsus 1 inch.

GENUS THAMNOBIA, Swains.

103. *T. fulicata*.—*Ixos fulicatus*.—*Motac. fulicata*, L.—*Kulchooree*, H.—*Indian Robin*.

This well known bird (with regard to which similar remarks to those made on *Gryllivora* as to its previous situation and nomenclature apply even more strongly), is tolerably common in most parts of the country, and its familiar habits have gained for it the name of "Indian Robin." It is found mostly about villages, pagodas, walls and old buildings and houses; often perching on the roof or pandaul, and feeding in the verandahs, or occasionally even entering houses. It is generally seen single or in pairs; feeds on the ground, on which it runs with great agility, frequently pursuing and capturing several insects before it reseats itself on its perch, either on a house, or some neighbouring tree or bush. At all times, but especially when feeding, it has the habit of jerking up its tail, by successive efforts, so as almost to overshadow its head. The male has a very sweet little song, which it

warbles forth from the top of a wall or low tree—and it is occasionally caged. The *Kulchooree* is not confined to the vicinity of villages, &c. but is very common on stony hills, and in various other situations. Irides dark brown. Length $6\frac{1}{2}$ inches; wing $2\frac{8}{10}$ ths; tail $2\frac{1}{2}$; tarsus 1 inch.

I have twice seen the nest of the bird, once built among a heap of large stones raised from a bounry, and the bird made its nest during the time the well was being blasted, and continued the process of incubation till the young ones were hatched, when it was accidentally destroyed. On the other occasion it had built its nest in a hole inside the wall of a house. It has 4 eggs, light dusky bluish colour, spotted with purplish brown.

GEN. SAXICOLA, Bechst.—*Stonechat*.

104.—*S. rubecola*, Temm.—European *Stonechat*.

I have seen this bird in all parts of India during the cold weather, making its first appearance in the beginning of October. It frequents bushes on the plains, hedges, and grain fields, and feeds on the ground on ants and various other insects. Irides dark brown; bill and legs black. Length $5\frac{1}{4}$; wing $2\frac{3}{4}$; tail $1\frac{3}{4}$; tarsus $1\frac{8}{10}$ ths.

105.—*S. caprata*, Vieill.—*Mot. caprata*, L. P. E. 235.—*Sax. fruticola*, Horsf. ?—*Sax. bicolor* and *S. erythropygia*, Sykes.—*Indian Stonechat*.—*Neilgherry* or *Hill Robin*.—*Kala Piddu* (i. e. *Black Warbler*), H.

There are two varieties (of size only however) of this bird found in the peninsula. The smaller kind is found throughout India. I have seen it in the Carnatic, Deccan and West Coast—the larger variety I have only seen on the Neilgherries, but as they nearly correspond in size with those found by Colonel Sykes, there is a regular gradation from the mentioned length of the *S. fruticola* of Horsf. (viz. $4\frac{1}{2}$ inches) to that of the hill variety, which reaches $6\frac{1}{4}$ inches, and as from the descriptions there appears no discrepancy in the colour of the plumage, I think that there can be but little doubt that they are mere varieties of one bird. The *S. erythropygia* of Sykes, as might indeed have been guessed from his own description, is the female of his *bicolor* (our present subject) as I have ascertained beyond a doubt—as well from dissec-

tion, as from being so universally met with together in all localities. This bird is not very common in the low country, and is perhaps most numerous in bushy and jungly districts, frequenting bushes, low trees, hedges, &c. On the Neilgherries it is extremely abundant, and there obtains the name of *Hill Robin*. It has the same manners as others of its genus, darting down to the ground from its perch on the top of a bush, or branch of a tree, and having secured an insect returning to its seat. It has a short little song, as well as the usual chattering note common to the *Stonechats*, and from which they derive their name. Varies in length from 5 to $6\frac{1}{4}$ inches. Of one $6\frac{1}{4}$ inches, the wing is $3\frac{2}{10}$ ths; tail $2\frac{1}{4}$; tarsus $\frac{10}{10}$ ths. Irides dark brown. Bill and legs black. The young bird is brown, spotted or streaked with light rufous.

106.—*S. rubecoloides*, Sykes.—*Indian red breast*.

This curious little species is clothed almost in the plumage of the well known European Robin. It is a rare bird. I have only seen it twice or thrice in topes in the neighbourhood of villages in the northern part of the table land. It is seen in small flocks, as well as singly, perched on the lower boughs of some large mango or tamarind tree, it hops to the ground to pick up ants and other insects, occasionally hopping a step or two, and then flying back frequently alights on the trunk of the tree, clinging to it for some seconds. It occasionally takes a very short flight from its perch, and back again, but whether to capture an insect in the air or not, I do not know. It differs from the *Stonechats* in structure, approaching the flycatchers in its broader and more depressed bill, and weak feet and legs. Irides dark brown; bill and legs brown. Length 5 inches; wing $2\frac{6}{10}$ ths; tail 2; tarsus about $\frac{6}{10}$ ths.

107. *S. nigrorufa*.—New species.—*Orange Robin*.

This prettily plumaged and apparently new species, I have only met on the summit of the Neilgherries, in the dense woods of which it may occasionally be seen, preferring the most close, retired and damp spots. Here it may be seen seated motionless on a low bough, suddenly darting to the ground to feast on a caterpillar or other insect it may have spied. I never heard its note.

Description—Head, face, back of neck and wings dusky black; rest of body bright cinnamon rufous or orange; palest on the belly.

Length about $4\frac{1}{2}$ to 5; wing $2\frac{1}{2}$; tail 2; tarsus $\frac{2}{10}$ ths. Irides hazel brown; bill black; legs dirty reddish.

SUB FAMILY PHILOMELINÆ, Swains.—*Large Warblers.*

GENUS PHÆNICURA, Swains.—*Redstarts.*

108.—*P. atrata*, Jard. and Selby.—*Indian Redstart.*—*Thirt-hira*, H—i. e. *Trembler*, or *Quaker*, from the motion of its tail.

This bird is very common in most parts of India during the cold weather, but more so in the table land, I think than in the Carnatic. It is solitary, frequents wooded places, gardens, hedges, old walls and buildings, being often seen about the roofs of houses. Feeds on the ground on wasps, ants and various other insects. Has a most peculiar quivering motion of its tail especially after feeding. The young bird has a brownish colour, where in the old bird it is blackish cinereous. Length about 6 inches; of wing $3\frac{1}{2}$; tail $2\frac{6}{10}$ ths.

109.—*P. Suecica.*—*M. Suecica*, L.—*Hoosenec Pidda*, H.—*Blue throated Redstart.*

I have not seen this beautiful Redstart in the Carnatic; and in the Deccan, it is far from being common, and is only found during the cold season, from October till March. It frequents thick hedges, gardens, sugar cane fields, and long grass or weeds in beds of tanks, &c.; occasionally coming close to houses; and feeds on the ground, on which it runs along picking up various insects, and does not return so quickly to its perch, I think, as the last species; neither has it that peculiar quivering of the tail, though while feeding on the ground, it occasionally jerks it up. It generally, when observed, tries to conceal itself among the bushes it frequents. Few of those I have seen were in perfect plumage. Irides dark brown; bill and legs brownish. Length nearly 6 inches; of wing $2\frac{2}{10}$ ths; tail 2.

GENUS PHILOMELA, Swains.

110.—*P. Orphea.*—*S. Orphea*, Temm?—*P. melanocephala*? Ill. Ornith.—*Largest Blackcap.*

Though I am far from certain that my specimens are identical with the European bird, yet from the brief and imperfect description I possess,

I conclude they may be so, if indeed it is not the species referred to in Swainson's Synopsis as *P. melanocephala*, a description of which I have not seen. This bird is found during the cold weather in hedges, thickets, large trees and gardens, and even on the low bushes on the plains. It is active and restless, moving about from branch to branch, clinging to the twigs, and feeding on various insects, grubs, caterpillars, also on flower buds. I have seen it alone, and also two or three together. It is rather an uncommon bird. I have seen it occasionally in the neighbourhood of Jaulnah, and on one occasion only in the Carnatic.

I shall here add a brief description. Head, face and back of neck, black in the male; dark slaty in the female; back and wings brownish ash grey; quills dusky brown; tail greyish black; external feathers white, with black shaft, and edged internally with blackish; next three feathers tipped with white; beneath white, with a reddish tinge on breast and belly; bill blackish horn colour; legs reddish brown. Irides dull greenish yellow. Length $6\frac{1}{2}$ to 7 inches; bill $\frac{1}{2}$ inch to front wing.

GENUS CURRUCA, Swains.—*Phoolareca*, II. —i. e. *Flower eater* or *Flower pecker*.

III.—*C. cinerea*, Selby.—*S. cinerea*, Temm.—*White-throat*.

Though I have the same uncertainty with regard to this species as the last, I shall refer it at once to the European bird, giving a brief description to determine it more exactly. This is more common than the last species, but like it is only found during the cold season, remaining till March. It frequents similar situations, and has similar habits and food. I have sometimes seen them feeding on the same tree. On one occasion I observed it in the month of March very numerous in a hedge row in the Carnatic, and found it had been feeding on the pupæ of some ants, to seize which it hopped down on the ground; feeds also much on flower buds. I frequently have heard its pleasant warbling song. Irides of a reddish brown yellow.

Description.—Head and neck cinereous; ears dark; rest of outer tail feather nearly all white; rest tipped with white only; the plumage above reddish cinereous; wings and tail brownish; throat white; rest beneath white, with a tinge of reddish; bill and legs brown. Irides brownish yellow. Length $5\frac{1}{2}$ to 6 inches.

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I.—*Catalogue of the Birds of the Peninsula of India, arranged according to the modern system of Classification; with brief Notes on their Habits and Geographical distribution, and description of new, doubtful and imperfectly described Species.*—By T. C. JERDON, Assistant Surgeon, 2d Madras Light Cavalry.

(Continued from No. 25 page 269.)

SUB FAMILY SYLVIANÆ.—*Small Warblers.*

GENUS ORTHOTOMUS, Horsf.—*Tailor Bird.*

114.—*O. Bennettii*, Sykes.—*O. Sphenurus*, Swains. ?—*S. ruficapilla*, Hutton, J. A. S. [of Bengal, No. 22.—*S. longicauda*, Vieill. Encycl. Method. p. 456.—*S. Guzuratta*, Lath. Young bird ?—*Phootkee*, H.—*True Tailor bird.*

The long celebrated, and notorious *Tailor Bird*, about which so much was said, and, till lately, so little known, appears to have been first described accurately as such by Lieut. Hutton, in the work referred to, and his specific name should, strictly speaking, be affixed to it, but as his description has probably not been so numerously circulated as that given by Colonel Sykes, with the correct modern generic name also, it would perhaps, be more injurious than otherwise to attempt to restore its legal name, and, moreover, if priority alone was to be consulted, the name applied by Vieillot has the preference. The *S. Sutoria* of

Latham is most probably a fictitious species, and the *Tailor Bird* described and figured by Forbes in his Oriental Memoirs, appears to be a *Cinnyris* (*C. purpurata*), which builds a somewhat similarly constructed nest.

The *Tailor Bird* is tolerably common in most wooded districts, and universally spread, frequenting cultivated ground, especially gardens, groves of trees, and also found in high jungle, in the more open spaces. It lives in pairs or in small flocks, incessantly hopping about the branches of trees and shrubs, peas and other vegetables, with a loud reiterated note, and picking various insects (chiefly ants and small larvæ) off the bark and leaves, and not unfrequently seeking them on the ground. It has the habit of frequently jerking up its tail while feeding or hopping about, and at times (especially when calling) it has the power of raising the feathers on the lower part of its throat, and displaying on either side a small black stripe. This has been noted by no one except Lieut. Hutton. The *Phootkee* has various notes, one of which sounds like *twee, twee, twee*, as mentioned by Colonel Sykes, and another which is generally used when alarmed or angry, and sounds like *chick, chick, chick chicky, chick*. It is a familiar bird, and ventures close to houses, but when observed becomes wary.

The *Tailor Bird's* nest truly merits all the praise and wonder that have been bestowed on it. I have seen several, and can bear testimony to the accuracy of Colonel Sykes' and Lieut. Hutton's accounts of it, as also to the accuracy of the coloured drawing of one which accompanied, a representation of this species in Guerin's 'Magasin de Zoologie.' Colonel S. has, however, on some occasion probably mistaken the nest of some other bird for it, as he says in his account of the nest and eggs,* that the latter are crimson, whereas in two instances, in which they were observed by me, they were white, spotted chiefly at the larger end with reddish brown, as described by Lieut. Hutton.

Length about 6 inches (to tip of longest tail feather); of wing about 2; tail $1\frac{8}{10}$ ths; centre feather of ditto 1 inch more; tarsus $\frac{8}{10}$ ths. Irides orange buff; bill brown above, flesh coloured below; legs flesh coloured.

115.—*O. Lingoo*, Sykes.

I have not hitherto procured this bird of which Colonel Sykes says

* Proceedings of Zoological Society for 1834.

“ differs from the type of *Orthotomus* in its short tail. Principal food black ants. Length $5\frac{6}{10}$ ths; tail $2\frac{1}{10}$ th.”

GEN. PRINIA, Horsf.—*Pit-pittee*, H.—*Wren Warbler*.

This genus, or sub-genus perhaps, though not admitted by Swainson, I am inclined to adopt in consequence of the well defined group of Indian birds classed under it, which do not exactly correspond with any of Swainson's, though they nearly approach to *Drymoica* (a sub-genus of *Malurus*), and probably connect it to *Orthotomus*, with which they are also strongly allied. All the species I have noticed, have similar manners and habits. In this respect they somewhat approach the *Thimalice* or *Babblers*, which they perhaps represent in this family, as well in their long, indistinctly barred tail, long legs, short wings, and other structural points, as in their occasionally associating in small flocks, and their incessant calling.

116.—*P. socialis*, Sykes.—*Ash-coloured Wren Warbler*.

This species of *Prinia* is unequally distributed over the peninsula, being tolerably common in some localities, and rarely met with in others. In the Carnatic, I have met it among reeds and long grass, by the side of rivers and tanks; on the west coast in similar situations, and much more common; while I have hitherto seen it but rarely in the table land. On the Neilgherries near Coonoor and Kotāgherry, it is very abundant in dry bushy ground.

Colonel Sykes says of this species “ has the same ingenious nest, and has the same habits and note, and feeds in the same manner as *O. Bennettii*.” I have not verified this observation as to the nidification of this bird, and have found the nest of another species to be very different. Irides orange buff; bill black; legs flesh coloured yellow. Length $5\frac{2}{10}$ ths; wing rather more than 2; tail $2\frac{3}{10}$ ths; tarsus $1\frac{8}{10}$ ths.

117.—*P. gracilis*, Franklin.—*Small Wren Warbler*.

This species much resembles the last in colour, but is much smaller, white below, instead of fawn colour, and I have only hitherto found it in wooded places and jungly districts (frequenting trees as well as bushes) in the west coast, and northern part of the table land.

118.—*P. inornata*, Sykes.—*Common Wren Warbler*.

This is a very common bird in all parts of the peninsula, frequenting low bushes on the open plains, hedges, low trees, grain-fields, &c. It is found generally in pairs, or sometimes in small flocks, feeds on ants, larvæ and various insects, and endeavours to conceal itself in the thick bushes or hedges, and on being driven away flies off to the nearest bush or tree with the low jerking flight common to others of the genus. I once procured the nest of this species, it was open at the top, neatly enough made with grass, well interwoven, without any lining, and fixed in a low bush, very near the ground: it contained four blue eggs. Irides, brownish yellow; bill, brown above, yellowish below. Length about 5 inches; wing $1\frac{9}{10}$ ths; tail $2\frac{3}{10}$ ths; tarsus about $\frac{1}{10}$ ths.

119.—*P. Macroura*, Frankl. Cat.—*Long tailed Wren Warbler*.

This is a very closely allied species to the last, though perfectly distinct, differing in the more reddish or fawn tint of the brown, and the more rufous tint of the white. It is much more rare than the last, and prefers more jungly and wooded places. Length of one specimen 6 inches; of tail, rather more than 3; wing hardly $1\frac{9}{10}$ ths; tarsus $\frac{9}{10}$ ths. Irides, brownish orange; bill brown, pale yellow at the base of the lower mandible.

120.—*P. sylvatica*.—New species?—*Jungle Wren Warbler*.

Descr.—Above olive brown; below and superciliary mark white, tinged with yellowish; tail obsoletely barred, with a larger bar at the tip, and terminated by white, except in the centre feathers; bill strong, black; legs flesh coloured. Irides orange buff. Length 6 inches; wing $2\frac{4}{10}$ ths; tail $2\frac{7}{10}$ ths; tarsus nearly one inch.

I have only seen this species hitherto in open forest jungle in the Se-goor pass of the Neilgherries.

121.—*P. rufifrons*.—New species?—*Red-fronted Wren Warbler*.

Descr.—Forehead and head rufous; above greenish ash coloured; beneath white; tail brown, and except in the centre feathers, broadly terminated by white, especially the outer feathers. Bill brown, pale below; legs flesh coloured. Irides pale orange buff. Length 5 inches; wing rather more than $2\frac{1}{10}$ th; tail $2\frac{2}{10}$ ths; tarsus $\frac{5}{10}$ ths. I have only

seen this apparently new species in low thick jungle in the neighbourhood of Jaulnah. It associates in small flocks; is very wary, flying before you from bush to bush, with a low chirping note, and so much the manners of a *Thimalia*, that I at first mistook it for one.

122.—*P. cursitans*, Frankl. Cat.—*Ghas ka Phootkee*, or *Ghas ka Pit-pittee*—*Grass warbler*—*Meadow Wren Warbler*.

This curious lark-plumaged little species of *Prinia* frequents long grass, whether on sides of nullahs, or in the open plains, and is far from being uncommon in most of the large runnahs of the table land. I have also seen it in the west coast. When disturbed it takes a short interrupted flight, and on seating itself hides among the tufts of grass, and often runs several yards. It feeds on ants, the larvæ of small grasshoppers, and various other insects. This bird if not an aberrant species of Swainson's genus *Praticola*, is probably a link joining it to the *Priniæ*. It differs from the character of *Praticola* in its shorter hind claw, and unnotched bill. Irides brownish yellow; bill brownish above, pale below; legs flesh coloured. Length 4 to $4\frac{1}{4}$ inches; of wing 2 ; tail nearly 2 ; tarsus nearly $\frac{8}{10}$ ths. I have specimens smaller than this in every respect, killed below the ghaunts.

SUB GENUS SYLVIA.—*True Warbler*.

123.—*S. Montana*, Horsf.

This species (if truly distinct), which differs from the next only in size, is rare in the peninsula. I possess but one specimen, the locality of which I have mislaid. Length $5\frac{9}{10}$ ths; wing $2\frac{4}{10}$ ths; tail rather more than 2 ; tarsus, $\frac{8}{10}$ ths; first quill feather very minute and sharp pointed, 2d quill feather longer than the 6th.

124.—*S. Rama*, Sykes.—*Village Warbler*.

This is a tolerably abundant bird in most parts of India, frequenting hedges, gardens and trees, in cultivated ground, and near villages. It is lively and active, hopping about the branches, and capturing various small insects, occasionally on the wing, but generally on the branches or leaves. It has a rather harsh chuckling note which it incessantly

utters on being approached, and endeavours to hide itself, creeping to the farther side of the tree. Some time ago a nest, carelessly put together with twigs and grass, containing 4 pure white eggs, was brought to me as the nest of this species. It was found in a hedge. Irides yellowish brown; bill brown above, yellowish below; feet flesh coloured yellow. Length $4\frac{8}{10}$ ths; tail about 2 inches; wing to end of 3d quill $2\frac{4}{10}$ ths; 1st a spurious quill feather larger and more rounded than in the last, and the 2d is only equal to the 7th.

125.—*S. Trochilus*?—*Willow Warbler* of Europe.

I possess a single specimen, of what I suppose is this bird, obtained lately in a wooded valley, along the edge of the northern range of ghauts. It appeared active and lively in its habits, occasionally flying from some reeds, and perching on a stone in a brook, and from thence making short sallies after insects in the air, or seizing one on the sand of the rivulet. I shall here add a brief description of my specimen. Above brownish olive; beneath whitish, tinged with yellow on the underwing, and tail coverts also on the outer edge of the wing. Length not quite 5 inches; of wing $2\frac{1}{2}$; bill and legs brownish black.

126.—*S. hippolais*?—*Chif-chaff* of Europe.

I possess specimens of what I shall consider as this bird, till they have been examined and identified in Europe. I procured them in the elevated district of Wynaad, and on the Neilgherries. Two of the specimens have their plumage consisting entirely of green and yellow, but these, I see, are considered by Yarrell as young birds. They were seen hopping briskly about the branches of high trees. Irides light brown. Length $4\frac{6}{10}$ ths; wing $2\frac{3}{10}$ ths; tail $1\frac{8}{10}$ ths; bill much wider than in the last species.

127.—*S. Indica*.—New species?

This warbler somewhat approaches the description of *S. Javanica* of Horsfield, but differs in wanting the fulvous hue of the forehead and chin. I have hitherto seen it but rarely, and only in the more northern parts of the table land, during the cold weather. I saw it frequenting trees, hopping briskly about the smaller twigs; also on one occasion on a bush on the side of a precipitous rocky mountain.

Descr.—Above olive grey; beneath olivaceous yellow; eye-streak bright yellow; bill brown above, yellowish below; legs greenish brown. Length 5 inches; of wing $2\frac{4}{10}$ ths; tail about 2; tarsus $1\frac{8}{10}$ ths.

SUB FAMILY PARIANÆ.—*Tits*.

SUB GENUS ZOSTEROPS, Horsf. and Vig.—*White-eye*.

128.—*Z. Maderaspatensis*.—*Mot. Maderaspatana*, L.—*S. leucops*, Vieill. Encycl. Meth. p. 441.—*S. palpebrosa*, Temm. P. C.—*Indian White-eye*.

This pretty plumaged little bird I have hitherto found in greatest abundance on the summit of the Neilgherries. Towards the more northern portion of the table land, it begins to occur, though sparingly, in the more wooded parts; and it is of tolerably frequent occurrence among the more wooded valleys of the northern ghauts. On the Neilgherries it frequents both the thick woods and gardens, and in the latter may often be seen clinging to the flower stalks, extracting the minute insects that infest flowers, by the pollen of which its forehead is often powdered. It feeds generally in small flocks, is lively and brisk in its movements, and keeps up a continual feeble twitter. Irides light yellowish brown; bill blackish; legs horn coloured. Length about $4\frac{1}{2}$ inches; wing $2\frac{3}{10}$ ths; tail $1\frac{7}{10}$ ths.

SUB GENUS PARUS.—*Tit*.

129.—*P. atriceps*, Horsf.—*Black-headed Tit*.

I have only seen this Indian *Tit* towards the south of the peninsula on the Neilgherries, where it is common in the woods, associating in small families, and feeding on various insects and seeds, to obtain which it occasionally resorts to the gardens. I have seen it once or twice only along the range of northern ghauts, but it probably is to be found all along the range of western ghauts, as it is enumerated in the catalogues both of Colonel Sykes and Mr. Elliot.

130.—*P. Xanthogenys*.—*Yellow cheeked Tit*.

This species is also an inhabitant of the Neilgherries, but I only observed it in the warmer parts about the edges of the hills. I have

hitherto observed it in no other locality, but it is mentioned in Mr Elliot's catalogue, as well in Colonel Sykes'. Food and habits of the last. Irides light brown.

131.—*P. melanolophus*, Vigors.—Gould's Cent.

I have only observed this pretty little species in Goomsoor, where I found it frequenting lofty trees in open spaces in the jungle.

132.—*P. ? minutus*.—New species?

I lately obtained in a wooded valley at the edge of the northern ghauts a single specimen of a small species of *Tit*, but unfortunately in imperfect plumage. It has the upper surface of the body of a greenish ash colour, tinged on the forehead, rump, and upper tail coverts with greenish yellow; beneath cinereous white, tinged in spots with light yellow; wing coverts edged with greenish yellow; bill and legs lead colour. Irides light brown. Total length about $3\frac{8}{10}$ ths of an inch; of wing $2\frac{4}{10}$ ths; tail $1\frac{1}{4}$; tarsus $\frac{5}{10}$ ths. Its bill is larger, and less robust than in the *Tits*, in general approaching that of *Ægithalus*.

SUB GENUS *PARISOMA*, Sw. ?—Vieill.—Sect. 1. Swains.?

133.—*P. ? vireoides*.—New species. ?—*Olive Tit*.

This curious little bird appears to be a link joining the *Parianæ* to the *Vireoinæ*. It has the bill considerably more strongly developed than in *Parisoma*, as described and figured by Swainson, but as it otherwise appears to agree with it, may be considered as an aberrant species. I first obtained this *Tit* in open spaces in the jungle in Goomsoor, and have lately observed it in lofty trees towards the more northern portion of the table land. It associates in small flocks, and frequents the highest branches, hopping briskly about, and diligently examining the leaves, fruit and flowers for various insects. I found its food to consist of small spiders, insects, eggs and larvæ, aphides and various other minute insects.

Descr.—Above, greenish olive; wings and tail brownish; the feathers of the former edged with light olive, and those of the tail tipped with white; beneath, dirty greenish white; bill and legs lead colour. Irides orange yellow. Total length 4 inches; wing $2\frac{2}{10}$ ths; tail $1\frac{2}{10}$ ths; tarsus $\frac{5}{10}$ ths.

SUB FAMILY MOTACILLINÆ.—*Wagtails*.

GEN. BUDYTES, Cuv.

134.—*B. citreola*.—*Yellow headed Wagtail*.

This species is occasionally met with in most parts of India, during the cold season, but is not nearly so abundant as the next species. I have seen it on the banks of rivers, and also in wet paddy-fields.

135.—*B. neglecta*, Gould.—*B. Beema*, Sykes.—*B. flava*, of Continental authors.—*Peelkya*, H.—*Yellow Wagtail*.

The *B. Beema* of Sykes, appears to be identical with the species from the continent of Europe, lately pointed out by Gould, as differing from the *B. flava* of Britain.

The *Peelkya* is an extremely common bird in all parts of India, during the cold weather, remaining till April. It associates together occasionally in large flocks, frequenting damp spots of ground near tanks, and marshy places, but also the grain-fields, and dry plains, feeding among cattle. Single birds, however, or two or three together, are not uncommonly seen about houses, and in gardens, sometimes perching on trees, or the top of a house, or wall. It feeds on various minute insects and their larvæ.

136.—*B. melanocephala*, Sykes.—*Black headed Wagtail*.

I am very doubtful if this is a distinct species from the last. It is generally found in company with it, and I have seen many specimens during the moulting, when there were only a few feathers on the head, that had assumed the black. I have a specimen with the head of a lead colour, and a stripe from the angle of the mouth to the ears only black, without any superciliary stripe. This is probably the female, whether it be a distinct species, or only the winter plumage of the last. Habits and food, same as the last.

136.—bis.—*B. flava*, Ray, Gould.—*Yellow Wagtail* of British authors.

If the yellow superciliary mark be an unerring characteristic of this British bird, it may also be enumerated as a winter visitant to India. I have shot it in company with *B. neglecta*, and the last.

GEN. MOTACILLA, Auct.—*True Wagtail.*

137.—*M. boarula*.—*Wood or Jungle Wagtail.*

This species is numerous on the Neilgherries, where it frequents running streams, also enters gardens, &c. It is very abundant on the passes leading up to the hills, hopping along the road, and flying before a traveller, often for some distance. I have once or twice seen it lately in woody streams in the more northern portion of the table land, during the cold weather only.

138.—*M. Maderaspatensis*, Auct.—*M. picata*, Frankl.—*M. variegata*, Steph.—*Mhamoola*, II.—*Indian Black and White Wagtail.*

This species is found throughout the peninsula, only in beds of rivers. Length nearly 9 inches; tail 4; wing $3\frac{6}{10}$ ths.

139.—*M. variegata*, Vieill.—*Encycl. Method.* p. 408.

I have not myself met with this species, which Mr. Elliot's notes have made known to me as an Indian bird, and from which I take the following description, "Above brown cinereous; beneath white; wings medial; tail feathers (not the centre ones), and two chest-bands, black; eye-brows, two diagonal bars on the coverts, and an imperfect third one on the quills, and ends of two outer rectrices, white; two brownish lines down the throat. Length $6\frac{1}{2}$ inches." I see this is also enumerated by M. Lesson, as an inhabitant of Bengal.

140.—*M. alba*, Auct.—*Mot. Dukhunensis*, Sykes.—*Dhobeen*, H.

I have not hitherto observed this species in the Carnatic, but it is very common over most of the table land, during the cold weather only, migrating to the north, at the commencement of the hot season. It frequents rivers, open fields, gardens, villages, stable yards, &c., and occasionally even enters houses, feeding on a great variety of insects.

GENUS ANTHUS.

I shall under this genus, enumerate two species, which although they do not exactly come under Swainson's restricted definition, are yet considered as *Anthi*, by most authors, and they have more of the manners of this family than of the *Larks*, with which Swainson has very properly, I think, associated most of the species, of the *Anthus*, of older authors.

141.—*A. arboreus* ?—*Tree Pipit* ?.—*Musarichee*, H.

This species, so much resembles the description of the *Tree Pipit* of Europe, that in the absence of more precise information, I shall consider it as such. It is only a visitor, during the cold weather, coming in October, and remaining till April or May. Associates generally in small flocks, frequenting beds of wooded streams, edges of tanks, and other moist places. Is also found in grain-fields, gardens, and groves of trees. It feeds partly on the ground, on various insects, and also on grain, and on being disturbed flies up to the nearest tree. It frequently, however, feeds on trees, hopping about the upper branches, like a *Sylvia*, and occasionally even snapping at an insect on the wing. Mr. Elliot says, "Its flesh is used by falconers as a restorative to the *Bhyree*, and is said to be very delicate." Length $6\frac{1}{2}$ inches; wing $3\frac{1}{2}$.

142.—*A. Richardi* ?

It is with some hesitation, that I consider the specimen, which I possess, to be the same as the *Anthus Richardi*, but as it appears to agree with many of the characters, as given in the descriptive works I possess, I shall do so provisionally, till correct information be obtained.

I have only met with this bird, on one occasion, on the banks of the Tumbuddra. It was in pairs, and its manner of flight was exactly similar to that of the *Wagtails*.

Descr.—Above olive brown, shaded with dusky, and many of the feathers edged with whitish; beneath whitish, the breast streaked with brownish, and a brown streak running down from the base of lower mandible on either side. Irides brown. Length $7\frac{1}{2}$ inches; wing $3\frac{7}{10}$ ths; tail about 3; tarsus $1\frac{2}{10}$ ths; hind toe $1\frac{1}{10}$ ths (with claw); claw alone $\frac{6}{10}$ ths.

FAM. MUSCICAPIDÆ, Swains. ?

SUB FAM. MUSCICAPINÆ, Sw.—*True Flycatchers.*

GENUS RHIPIDURA, Vig. and Horsf.

SUB GENUS LEUCOCIRCA, Swains.—*Fantailed Flycatcher.*143.—*L. albo-frontala*.—*R. albo-frontala*, Frankl.—*White browed Fantail*.—*Mucchureea* (i. e. *Mosquito catcher*), H.—*Manatee*, Mal.

This pretty and lively *Flycatcher*, is only to be met with in the southern parts of the peninsula, in well wooded districts, and open forest jungle, as in Travancore and Malabar. I have never seen it in the Carnatic. Towards the northern part of the table land, however, it is much more common, being met with during the cold weather in every clump of trees, and in wooded nullahs, indeed, throughout the year. It is a most active and restless little creature, continually flitting about, from branch to branch, snapping up an insect on the wing, every now and then, and raising its outspread tail, and lowering its wings, whenever it reseats itself on a twig. It is by far the most restless of all the Indian *Flycatchers*, seldom returning to the same perch, but traversing successively all the branches of the large trees it delights to frequent. It is by no means uncommon in gardens, seating itself on the sticks of peas or beans. I have once or twice seen it perched on the back of a cow, that was laying down beneath a tree, and pursuing insects from this unusual perch. I have also seen it on the ground, near a thick hedge side. It has a very sweet little song, which it warbles forth every now and then, consisting of several notes following each other regularly in the descending scale. Its chief food is small soft-winged insects, especially mosquitoes. Its Malayalam name signifies '*washerwoman*,' and is given from the continual motion of its tail. Irides dark brown; bill and legs black. Length about 7 inches; tail $3\frac{7}{10}$ ths; wing $3\frac{2}{10}$ ths; tarsus $\frac{7}{10}$ ths.

144.—*L. fuscoventris*.—*R. fuscoventris*, Frankl.

I have not hitherto shot this species, and have only once observed it in low bushy ground on the Neilgherries. Colonel Sykes mentions it as frequenting the same localities as the last species.

less sedentary in their habits, than the true *Muscicapæ*, and have the habit of wandering more from tree to tree, and less frequently returning to the same perch. This, in accordance with Le Vaillant's observations, as mentioned by Swainson. The flight of this species is very elegant. I always observed it single. I have not had the means hitherto of verifying Colonel Sykes' remarks on the females of this, and the next species. The female of this as described by Colonel Sykes, appears to be identical with the supposed new species of Swainson, figured in his volume on *Flycatchers*, in the Naturalists' Library, under the name of *M. leucogaster*. Length about 10 inches; of wing $3\frac{9}{10}$ th; tail 5 to 6 inches; tarsus $\frac{7}{10}$ ths; bill to front $\frac{7}{10}$ ths; at gape $1\frac{1}{10}$ th; bill and naked skin round eye of a delicate lilac blue colour; feet plumbeous. Irides deep brown.

147.—*M. Indica*, Steph.—*M. castanea*, Temm.—*Shah Bulbul*, or *Sultana Bulbul*, H.—*Long-tailed red Flycatcher*.

The *Sultana Bulbul* is more common, and more generally spread than the last, though far from being abundant. Food, manners and habits of the last. Dimensions, &c. as in *M. Paradisi*.

SUB GENUS MUSCICAPA, Sw.

148.—*M. cœrulea*, Vieill. Encyl. p. 807.—*M. occipitalis*, Vig. Proc. Z. S. for 1831.—*Black-naped Blue Flycatcher*.—*M. cœruleocephala*, Sykes' Cat. Young bird?—*Gobe-mouche bleu des Philippines*, Buffon. Pl. En. No. 666, fig. 1.

The *M. occipitalis* of Vigors, appears to be identical with the bird previously named as above. It is very rare in the peninsula. I have only seen it twice, once on the Coonoor pass of the Neilgherries, and again in the Wynaad, in both places in dense jungle. I have also seen a specimen shot in the Malabar Coast. At the times I observed, it was flying from tree to tree, remaining on each a short time, and capturing an insect or two, and then resuming its flight. The form of this *Flycatcher* is peculiarly slender and delicate, differing much from the more rounded and compact forms of the true *Muscicapæ*. Irides deep brown; bill bluish; legs bluish black. Length 6 inches; of wing to end of 5th quill $2\frac{8}{10}$ ths; of tail $2\frac{1}{4}$; tarsus $\frac{7}{10}$ ths; bill to front $\frac{4}{10}$ ths; to gape $\frac{6}{10}$ ths. This is evidently an aberrant species, leading to *Myia-*

gra by its long tail (which is slightly rounded), and other peculiarities of form.

149.—*M. pallipes*.—New species?—*M. Indigo*, Horsf.?—*White bel-
lied blue Flycatcher*.

This species resembles much the description of *M. Indigo* of Horsfield, but that is said to be only $4\frac{1}{2}$ inches long (Griff. Cuvier), and is therefore perhaps distinct. I have only shot a single specimen of this species, in thick forest on the Coonoor ghaut, where I observed it darting on insects from its perch on a low branch.

Descr.—Entirely of a deep indigo blue, except belly and under tail coverts, which are white; wings and tail dusky on their inner webs; bill, black; legs, feet, and claws pale whitish flesh-colour. Irides deep brown. Length about $6\frac{1}{2}$ inches; of wing $3\frac{1}{10}$ ths; tail $2\frac{1}{2}$; tarsus more than $\frac{7}{10}$ ths; bill to front about $\frac{5}{10}$ ths; to gape $\frac{8}{10}$ ths; the 5th and 6th quills are subequal and longest, and the tail is nearly even.

150.—*M. Banyumas*, Horsf.—*Red breasted blue Flycatcher*.

This pretty little species, is spread, though sparingly, throughout India, and I have met it wherever there was much wood, in Goomsoor, in the Northern Circars, at the Tapoor pass, in the Carnatic, and on the west coast, where it is of tolerably frequent occurrence. I have also seen it in the northern part of the bare table land, once in a clump of trees near a village, and again in a jungly nullah. It feeds in general, like its congeners, from a fixed perch, catching its prey on the wing, but I have repeatedly seen it descend to the ground to pick up an insect, and even hop a step or two whilst down.

The structure of its bill is similar to that of the last, viz. long and tapering, and the 4th and 5th quills are subequal and longest; bill black; legs brownish. Irides deep brown. Length rather more than $5\frac{1}{2}$ inches; wing $2\frac{9}{10}$ ths; tail $2\frac{3}{10}$ ths; tarsus $\frac{7}{10}$ ths; bill to front $\frac{4}{10}$ ths; to gape $\frac{7}{10}$ ths.

151.—*M. melanops*, Vig.—Gould's Cent.—*Pale blue Flycatcher*.

I possess two specimens, of what I consider to be this species, as well from the drawing in Gould's Century, as from the description. The one I procured in Goomsoor, the other in a jungly valley at the edge

of the northern ghauts near Ajuntch. It captures its insect prey on the wing, as well as occasionally on the ground, returning to the same perch. Length about 6 inches; of wing $3\frac{3}{10}$ ths; tail 3 inches; tarsus $\frac{6}{10}$ ths; bill to front $\frac{3}{10}$ ths; to gape $\frac{6}{10}$ ths; bill and legs black. Irides deep brown; bill short triangular—4th quill the longest, 3d subequal to the 5th.

152.—*M. albi-caudata*.—New species?—*M. thalassina*, Swains. ?—*White tailed or Neilgherry Blue Flycatcher*.

Descr.—Of a deep indigo blue colour, inclining to lazuline on the forehead, head and shoulders; belly ashy blue mingled with whitish; under tail covert whitish, barred with dusky blue; wings and tail dusky black; the feathers edged with blue, and those of the tail (the centre feathers excepted) white at their base; bill and legs black. Irides deep brown. Length $6\frac{1}{2}$ inches; of wing $3\frac{2}{10}$ ths; tail $2\frac{6}{10}$ ths; tarsus $\frac{7}{10}$ ths; bill to front $\frac{4}{10}$ ths; to gape $\frac{7}{10}$ ths; bill rather longer and less triangular than in *M. melanops*, not so long as in *M. pallipes* and *M. banyumas*—4th and 5th quills equal and longest.

I have hitherto only found this species on the Neilgherries, in the dense woods of which it is far from being uncommon. It captures insects of various kinds on the wing, from a fixed perch, occasionally a small flock of five or six of them are seen together in a state of continual movement, taking short darts and gambols in the air, as much in sport apparently, as in actual pursuit of insects.

153.—*M. superciliaris*.—New species?—*White browed blue Flycatcher*.

Descr.—Above and sides of the breast, of a beautiful light indigo, or rather prussian blue, beneath; superciliary stripe extending to some distance behind the eyes, and base of the tail; feathers (except the central ones), pure snowy white. Some of the feathers of the rump with the shaft, and a bar in the middle of the feather, also white; bill and legs black. Irides deep brown. Length $4\frac{3}{4}$ inches; wing $2\frac{5}{10}$ ths; tail $1\frac{6}{10}$ ths; tarsus $\frac{6}{10}$ ths; bill to front $\frac{3}{10}$ ths; to gape $\frac{6}{10}$ ths; bill more lengthened than in the two last, very little compressed; wings with 4th quill longest, 3d and 5th subequal.

I lately obtained a single specimen of this beautiful little species, in a wooded valley, at the edge of the range of northern ghauts.

154.—*M. Poonensis*, Sykes.—*M. latirostris*, Swains. Nat. Lib. vol. 21 ?—*Zukkee*, II.—*Indian Grey Flycatcher*.

I possess two specimens, which, as they differ only in size, I consider as identical with the species named as above by Colonel Sykes, and Swainson's supposed new species does not appear to differ from them. The smaller of my specimens was procured in the hot Carnatic, near Trichinopoly, the larger one on the Coonoor pass of the Neilgherries, at a considerable height. I have observed it on several other occasions, both in the Carnatic, and on the Malabar Coast. It feeds on insects, which it captures on the wing from a fixed perch, and it is, I think, more sedentary in its habits than any of the previously described *Flycatchers*. Bill blackish above, whitish below, except at tip; irides deep brown; legs brown. Length of my specimens 5 and $5\frac{3}{4}$ inches; of the first, the wing is $2\frac{7}{10}$ ths; tail 2; tarsus $\frac{5}{10}$ ths; bill to front $\frac{4}{10}$ ths; to gape nearly $\frac{7}{10}$ ths. In the larger one the wing is $2\frac{1}{10}$ ths. In both the 3d and 4th quills are equal and longest.

155.—*M. hirundinacea*, Horsf., Temm.—*M. picata*, Sykes.—*Tephrodornis hirundinaceus*, Sw.?—*Black and white Flycatcher*.

This bird has so much the habits, as well the general structure and appearance of a *Flycatcher*, that I shall for the present here retain it, and a closely allied species, although Mr. Swainson has, I see, ranged it as a *Tephrodornis*.—Vide remarks *postea*.

I have only hitherto seen it on the Neilgherries, where it is not very uncommon in the woods, darting upon insects in the air from a branch, and though perhaps it wanders about more than many of the genus, is yet not nearly so restless as the *Fantails*. Bill and legs black; irides sienna yellow. Length $5\frac{1}{2}$ to 6 inches; of wing $2\frac{9}{10}$ ths; of tail $2\frac{4}{10}$ ths; tarsus nearly $\frac{1}{2}$ inch; bill to front $\frac{4}{10}$ ths; at gape $\frac{7}{10}$ ths.

156.—*M. erythropygia*.—New species?—*Tephrodornis*?—*Red breasted Flycatcher*.

Descr.—Male:—plumage above, cheeks and chin, of a glossy blue black; beneath, longitudinal stripe on the wings, and outer edges and tips of the lateral tail feathers, white; breast and rump of a beautiful orange red, darkest on the rump.

Female,—with the parts black in the male, of an ashy brown (except the tail which is deep black); feathers at the base of the bill above whitish; rump, outer edges and tips of the lateral tail feathers, and beneath, white, tinged with ashy on the breast. Bill and legs black;

irides brownish yellow. Length $6\frac{1}{2}$ inches; of wing $2\frac{7}{10}$ ths; tail $3\frac{3}{10}$ ths; tarsus $\frac{1}{2}$ inch; bill to front $\frac{3}{10}$ ths; at gape $\frac{6\frac{1}{2}}{10}$ ths.

I have only once seen this prettily marked species, in low and thick jungle on the top of the ghauts, near Ajuntah, when I fortunately procured both male and female. I found fragments of various insects in their stomachs, but had no opportunity of observing their manner of feeding or other habits.

These two last species certainly differ from *Muscicopa* in some particulars. Their tarsi are distinctly scaled, and the bill (especially of the former species), is stronger, more *shrike*-like, and less depressed; but their small size, the habits as observed of the first species, and general appearance, led me in the first instance to overlook these differences, and I had not observed that Swainson had described the first as a *Tephrodornis*, when I was enumerating the species of that genus.

TRIBE CONIROSTRES.

FAMILY CORVIDÆ.

SUB FAMILY CORVINÆ.

GENUS CORVUS.—*Crow*.

157.—*C. splendens*, Vieill.—*Patee Kowa*, II.—*Common Crow*.

This is the common crow of India, and is most abundant every where, roosting on high trees, and spreading in the morning through villages, and cantonments, &c. It is a most familiar, noisy and impudent bird. It breeds on trees in the hot weather.

158.—*C. macrorhynchos*, Wagl.—*C. culminatus*, Sykes.—*C. corone*, var., Frankl. Cat.—*Dheree Kowa* or *Kurrial*, H.—*Large black crow*.—*Indian Carrion Crow*.

This species, though not so numerous as the last, is yet very abundant, and nearly equally troublesome and impudent. It partakes more readily than the last of carrion, and I think the *King Crows* appear to pursue it with greater hatred than the common crow, so it probably

occasionally pilfers their eggs or young. Irides dark brown; bill and legs black. Length 21 inches; of wing $13\frac{4}{10}$ ths; tail $7\frac{3}{4}$; tarsus $2\frac{1}{2}$; bill to front $2\frac{4}{10}$ ths; at gape $2\frac{1}{2}$.

SUB FAMILY GLAUCOPINÆ, Swains.

GENUS CRYPSIRINA, Vieill.—DENDROCITTA, Gould.—*Tree Crow*, or *Magpie*.

As Swainson asserts the identity of these two genera, I take the former as being the legal generic name.

159.—*C. vagabunda*.—*Pica vagabunda*, Gould's Cent. pl. 42.—Gray and Hardw. Ill. I. Z.—*Coracias vagabundus*, Lath.—*Maha Lat*, II. of some *Shikarees*.—*Indian Magpie*.

This bird, the *Indian Magpie*, is generally spread throughout the South of India, but is only at all plentiful on the well wooded western coast, where it is to be seen and heard in every lofty avenue. In the Carnatic, I have only seen it in the jungly district near Touremcouchy, and in the table land it is also rare, being met with only occasionally in jungly districts, or in the neighbourhood of well wooded villages. It frequents the highest jungles occasionally, not in their densest portions, however. This bird is found single or in pairs, occasionally four or five being seen together. It lives, as far as I have ascertained, entirely on fruit of different kinds, and is very fond of the fruit of the banian. It has a most peculiar cry, something like the metallic sound of the call of the *Racket-tailed Drongo* (*Dicrurus retifer*), but its usual call is a harsh rattling cry, like that of the European *Magpie*. Irides blood red; bill black; legs slate colour. It is considered by the natives as a kind of *Shrike*. Length about 16 inches; wing 6; tail 10; tarsus $1\frac{3}{10}$ ths; bill straight to gape $1\frac{2}{10}$ ths.

160.—*C. lencogastra*.—*Dendrocitta lencogastra*, Gould, Trans. Zool. Soc. vol. I, pl. 12.—*Long tailed Magpie*.

This very elegant species is much more rare than the last. I have only seen it in the jungles of Malabar and the Wynaad. It frequents the densest portions of the jungles, and is extremely shy and wary, feeding like the last on various fruit and berries. It has a somewhat

similar call. Irides blood red; bill black; feet plumbeous. Length $18\frac{1}{2}$ to 19 inches; wing $5\frac{3}{4}$; tail 12; tarsus $1\frac{3}{10}$ ths; bill straight to gape $1\frac{2}{10}$ ths.

161.—*C. Sinensis*.—*Pica sinensis*, Gould's Cent. Him. Birds, pl. 43.

I have hitherto not been fortunate enough to procure this bird, though I think I have observed it in open jungle on the Segoor pass of the Neilgherries; but I have seen specimens, killed in the eastern range of ghants.

FAMILY STURNIDÆ.—*Starlings*.

SUB FAMILY STURNINÆ, Swains.

GENUS STURNUS, Lin.

162.—*S. contra*, Gmel.—*S. capensis*, Lath.—*Pastor Contra*, Wagl.—Buffon P. E. 280.—*Indian Starling*.

The *Indian Starling* occurs in great abundance in the district of the Northern Circars, but, as far as I can learn, in no other part of the peninsula of India. I first met it a few miles to the north of Vizagapatam, and saw it afterwards throughout the whole district to the northward, as far as the Goomsoor country, where it is very numerous. It lives in large flocks, feeding on the ground and associates freely with the common *Myna*.

I know not if it remains here during the whole season. I saw it in the cold weather. Length $8\frac{1}{2}$ inches; wing $4\frac{6}{10}$ ths; tail $2\frac{3}{4}$; tarsus $1\frac{3}{10}$ ths; bill to front $\frac{9}{10}$ ths; straight to gape $1\frac{7}{10}$ ths.

GENUS PASTOR.—*Myna*, H.

163.—*P. tristis*, Temm.—*Gracula tristis*, Lath.—*Grac. gryllivora* Dand, Buffon P. E. 219.—*Myna*, H.—*Saloonkee*, Mah.—*Gorwuntra* Cau.—*Common Myna*.

This well known and common bird is found throughout India, preferring the neighbourhood of cultivation and villages, and never found in high or dense jungle. It roosts in numerous flocks, generally on high trees, and disperses in various parties of two, four, six, or more, about sun-rise. Some enter the villages and cantonments, others attend flocks of sheep or cattle, which they follow while grazing, feeding on the grasshoppers and other insects, disturbed by the treading of the cattle. The *Myna* also will feed on grain, and seeds of various kinds, and is very fond of white ants. Its flight is swift, steady and direct. It breeds, I am informed, in the holes of old trees, walls, old buildings, &c., during the hot weather, and is said to have 3 or 4 eggs of a greenish blue colour. It is very often taken when young, and caged, becoming very familiar, and learning to repeat words and sentences with great ease. Its cries are many and varied, most of them harsh, loud and disagreeable, but it has also some sweet and agreeable notes. Length varies from $10\frac{1}{2}$ to nearly 12 inches. Irides reddish brown, studded (as Colonel Sykes remarks) with whitish specks on their external margin; bill and legs yellow; naked skin round eyes, orange yellow. *sent in paper to Zoological Society, 24 June/54.*

164.—*P. fuscus*, Wagl. ?—*P. Malrattensis*, Sykes ?—*Hill Myna*.

This very closely allied species, I have found, in greatest abundance, on the Neilgherries, where it accompanies cattle like the last (whose place it supplies here), and also frequents gardens, eating various seeds, and fruit. I have also seen this species in the Wynaad, and I think, on one occasion, in Mysore. I have united Colonel Sykes' name to that previously given by Wagler, and have little doubt but that they are the same bird. Colonel Sykes however, says "possesses no crest," and Wagler does not mention one, though he probably infers it, as he says, "very similar to *P. Tristis*." Now my specimens, though they have not the flowing crest of the common *Myna*, have the feathers of the head lengthened, and those of the forehead are somewhat raised, as in *P. cristatellus*. It has not the naked yellow skin round the eye of *P. tristis*. Length 9 to $9\frac{1}{2}$ inches; wing 5; tail 3; tarsus $1\frac{4}{10}$ ths; bill to front nearly $\frac{7}{10}$ ths; at gape $1\frac{2}{10}$ ths. Irides greyish white; bill orange yellow; feet gamboge yellow.

165.—*P. pagodarum*, Temm.—*Turdus pagodarum*, Gmel.—*Le Martin Brame*, Le Vaill. Ois. D'Afr. pl. 95-2.—*Popoya Myna*, H.—*Brahminy Myna* of Europeans in India.

bill blue at base, greenish in centre and yellow at tip; legs reddish yellow; claws pale yellow. Length 8 to $8\frac{1}{2}$ inches; wing $4\frac{2}{10}$ ths; tail $2\frac{7}{10}$ ths to 3; tarsus 1 inch; bill to front $\frac{7}{10}$ ths; at gape $1\frac{1}{10}$ th.

I may here mention, that I think there exists another species of *Pastor*, nearly allied to this, and differing only in size and in the colour of the head and neck, which are permanently grey, instead of assuming a white plumage. I possess only one specimen of this bird, shot in the Northern Circars, but have seen and shot it in the Carnatic, during the cold season, frequenting the tops of high trees. It may be considered as the young of *P. pagodarum*, but besides the difference of size, and various peculiarities of both plumage and structure, as I never saw it in company with it, and have reason to believe that the young birds of the latter early assume the black colour of the head, I think it certainly distinct. Again it may be considered as the young of the *P. Malabaricus*, to which it has certainly a strong resemblance; but as I never saw that species in the Carnatic, nor in the Northern Circars, I think that this supposition is also unlikely. If distinct, it may be named *P. cinereus*. Is this the *Gracula cinerea* from Bengal, mentioned in Lesson's *Traite*? Length of my specimen $7\frac{1}{2}$ inches; of wing 4; tail $2\frac{1}{2}$; tarsus barely 1; bill to front $\frac{6}{10}$ ths; at gape about 1 inch. Bill and legs as in *Past. Malabaricus*, except that the bill is yellow only at the tip, instead of for more than half its length.

167.—*P. roseus*, Temm.—*Turdus roseus*, Gmel., Lath.—Tillyer, H.—*Cholum* bird of Europeans in the Carnatic.

This well known species makes its appearance in the peninsula of India about the end of November, or beginning of December: associates in vast flocks, and commits great havoc on the grain-fields, especially in those of *Cholum* (or *Joaree*,) (*Andropogon Sorghum*), whence its common name. When the grain is cut, it occasionally feeds on insects, seeking them on the ground, also on various grass seeds, fruit and flower buds. It disappears in March, though straggling parties are met with even in April. The majority of birds in a flock are in imperfect plumage, the delicate salmon colour of the adult bird being replaced by a dirty fawn colour.

I extract from Mr. Elliot's notes the following interesting observations on this species. "Is very voracious and injurious to the crops, particularly to the white *Jowaree*, in the fields of which the farmer is obliged to station numerous watchers, who, with slings, and a long rope

or thong (which they crack dexterously, making a loud report), endeavour to drive the depredators away. The moment the sun appears above the horizon, the *Tillyers* are on the wing, and at the same instant shouts, cries and the cracking of the long whips, resound from every side. The *Tillyers*, however, are so active that if they are able to alight on the stalks for an instant, they can pick out several grains. About 9 or 10 o'clock A. M. the exertions of the watchmen cease, and the *Tillyers* do not renew their plundering till the evening. After sun-set they are seen in flocks of many thousands, retiring to the trees and jungles for the night. They prefer the half ripe *Jowarree*, whilst the farinaceous matter is still soft and milky." Length 9 to $9\frac{1}{2}$ inches; wing $5\frac{1}{4}$; tail 3; tarsus nearly $1\frac{3}{10}$ ths; bill to front $\frac{7\frac{1}{10}}$ ths; at gape $1\frac{1}{10}$ th. Irides deep brown; bill orange yellow at the base, then pinkish, and brown at the point; legs dusky reddish.

GENUS GRACULA, L.—EULABES, CUV.

168.—*G. religiosa*, L.—*Koknee Myna*, H.—*Wattled or Jungle Myna*.

This species is only found in lofty jungle, as well in the east as on the west coast. It is by no means common, and seems very partially distributed, as you may pass through miles of forest without seeing a single specimen. It is generally found in small parties of five or six frequenting the tops of the loftiest trees, and feeding on fruit and berries of various kinds. I never found that insects had formed any portion of its food. The song of this bird is very rich, varied and pleasing, it has, however, several harsher notes frequently heard in the jungles it frequents. The *Jungle Myna* is now not often seen in cages in the South of India, but it is very highly prized, both for its powers of song and speech, which are said to surpass those of all other birds in distinctness. Irides deep hazel brown; bill and wattles orange yellow; legs bright yellow. Length 10 inches; wing $5\frac{6}{10}$ ths; tail $2\frac{8}{10}$ ths, tarsus $1\frac{2}{10}$ ths; bill straight to front 1; at gape $1\frac{3}{10}$ ths.

It has probably been from erroneous information that this species was named '*religiosa*' by Linnæus, as I am not aware of its being considered sacred by the Hindoos, whereas the *Pastor Tristis*, or common *Myna* is, as I learn from Mr. Elliot's notes, sacred to *Ram-deo*, on whose hand it sits.

FAMILY FRINGILLIDÆ, Finches.

SUB FAMILY COCCOTHAUSTINÆ, Swains.—*Hard-bills*.GENUS EUPLECTES, Swains.—*Ploceus*, Auct.169.—*E. Philippensis*.—*Ploc. Philipensis*, Auct.—*Baya*, H.—*Weaver Bird*.

The weaver bird is found over all the peninsula, but much more abundantly in some situations than in others, being common in the more wooded districts, and though not rare, far from common in the Carnatic, and the bare table land, as you may often pass over large tracts of country without ever seeing it, while in particular spots you find a tolerably large colony of them. The *Baya* associates in numerous flocks, generally builds in company, and almost always in the close vicinity of water. Its long bottle-shaped nest is well known. It feeds on various grass seeds, and also grain, associating sometimes with the *Emberiza melanocephala*, and sometimes as Colonel Sykes observes, with the house sparrows. The flock keeps up a continual chirping. It breeds, I am told, towards the end of the monsoon, and the young ones are ready to fly about the ripening of the first crops of grain. Length about 6 inches; of wing $2\frac{8}{10}$ ths; tail 2; tarsus $1\frac{9}{10}$ ths. Irides dark brown; bill black; legs yellowish.

170.—*E. Bengalensis*.—*Loxia Bengalensis*, Auct.—*Cocc. chrysocephala*, Vieill.—*Le gros bec Orchef*, Vieill. Encyl. Meth. p. 1008.—*E. albirostris*, Sw.?—*Bahmunee Baya*, H.

I have not myself met with this species, but find it recorded in Mr. Elliot's notes, as found occasionally in the Southern Mahratta Country. That gentleman says that, "the male has the yellow crown only in the breeding season. At other times only eyebrow and ear spot are yellow. Their nests, though similar, are smaller than those of the common *Baya*, and have two chambers. Habits the same as those of the *Baya*. Length 6 inches."

Major Franklin, I see, has ranged this bird, as an *Emberiza*, but says its Indian name is *Baya*, and Mr. Elliot calls it a *Ploceus*; so, although I have not seen it, I range it unhesitatingly as an *Euplectes* of Swainson.

GENUS AMADINA, Swains.

SUB GENUS ESTRELLA, Swains.

171.—*E. amandava*.—*Fringilla amandava*, L.—*Lal* (the male), *Moonah* (the female), H.

This pretty little bird is far from being common in the South of India. I have seen it in greatest abundance on the top of the Neilgherries, where it frequents meadows and bushy ground, but frequently also enters gardens, and is considered destructive to various seeds, buds, &c. I have seen it only once or twice in the Deccan, in the neighbourhood of well wooded towns. It is said to be common in some parts of Mysore. Mr. Elliot says, "It is common in Dharwar, particularly in the sugar-cane fields, along with *Spermestes Malacca*. Though I have never myself observed it in the Carnatic, I am informed it is met with in some districts, especially about Arcot, and that it builds its nest of well woven grass, attaching it to a stalk of *rawala*. It is caught in great quantities in certain parts, and kept in cages with the next and other species. It is said to fight with great courage (for which purpose it is kept by the natives), and that it will continue the combat till blood is drawn on one or both sides. Length $4\frac{1}{2}$ inches; wing 2; tail $1\frac{1}{2}$; tarsus rather more than $\frac{1}{2}$ an inch; bill to front $\frac{3}{10}$ ths.

SUB GENUS SPERMESTES, Swains.—LONCHURA, Sykes.

The next four species most probably belong to Swainson's genus *Spermestes*, though they are probably aberrant species, leading to *Erythrura*, by their slightly acuminate tail.

172.—*S. nisoria*, Temm. P. C. 500-2.—*Loxia punctularia*, Auct.?—*Sing baz* or *sheen baz*, H.—*Chestnut throated finch*.

I have hitherto only found this pretty species on the Neilgherries, frequenting long grass and bushes, and feeding on various seeds in small parties of 4 or 5. I am informed, however, that it is met occasionally in various parts of the country, as in Mysore, and some of the more wooded spots, near large towns in the table land. It is enumerated both in Mr. Elliot's and Colonel Syke's catalogues. The upper tail coverts have a strong yellow tinge, and a glistening waxy sort of lustre. Bill and legs, slate blue; irides dark brown. Length $4\frac{1}{2}$; wing $2\frac{2}{10}$ ths; tail $1\frac{1}{2}$; tarsus $\frac{6}{10}$ ths; bill at front $\frac{4}{10}$ ths.

173.—*S. leuconota*.—*F. leuconota*, Temm., P. C. 500—1.—*Lox. striata*, Lath. ?—*White rumped Finch*.

I have only hitherto observed this species in the Malabar coast, and the Wynaad, frequenting grain-fields, open spaces in the jungle, and occasionally seen on the road-side, and even in stable yards, feeding on various kinds of grain and seeds. It lives in small flocks of six, eight or more. Irides dark brown; bill and legs, slate blue. Length $4\frac{4}{10}$ ths; wing $2\frac{1}{10}$ th; tail $1\frac{6}{10}$ ths; tarsus $\frac{5\frac{1}{2}}{10}$ ths; bill to front $\frac{4}{10}$ ths.

174.—*S. Malacca*.—*Loxia Malacca*, Auct. ?—*Nukl-nore*, H.—*Black-headed Finch*.

The *nukl-nore* so nearly approaches the description of the *Loxia Malacca* of authors, that I shall here consider it as the same. I have seen this bird in the Carnatic, frequenting long reeds and grass, by the side of rivers, in the table land in similar situations, though more rare, and most numerous in the wooded region of the west coast, frequenting grain-fields in large flocks along with the last species.

I shall here add a brief description. Male,—head, neck and breast of a rich black; body above of a chestnut brown; the upper tail coverts of a brighter tinge, and with a glistening lustre, as in *S. nisoria*, belly white with large central spot and vent black; bill bluish at base, yellowish at tip; legs plumbeous. Length $4\frac{3}{4}$; wing $2\frac{2}{10}$ ths; tail $1\frac{4}{10}$ ths; tarsus $\frac{6\frac{1}{2}}{10}$ ths; bill at front $\frac{4\frac{1}{2}}{10}$ ths. Irides dark brown. Female—or young ?—above of a pale cinnamon brown, darkest on the head; beneath rufous white, darkest on throat and neck.

175.—*S. cheet*.—*Lonchura cheet*, Sykes.—*Pidderee*, H.—*Small brown Finch*.

This plain coloured little *finch* is found all over the peninsula, living in families, and frequenting hedges, low trees in cultivated ground, and low bushes on the open plain, or by a river side. It frequently enters gardens, and feeds on various kinds of seeds. Colonel Sykes describes its nest as being formed of grass, in the shape of a hollow ball, and that he found in one nest ten white eggs, not much larger than peas. Irides deep brown; bill bluish; legs dirty reddish. Length about 5 inches; tail 2.

SUB FAMILY FRINGILLINÆ.—*Ground Finches.*

GENUS PYRGITA, Swains.

176.—*P. domestica*.—*Chooree*, H.—*Common House Sparrow*.

The *Sparrow* is found all over India, even its hottest parts. It is least common on the wooded west coast, and Quilon is said to be exempt from its society, as well as from that of the common squirrel (*Sepalmarum*), two of the greatest pests of most other stations.

177.—*P. flavicollis*.—*Fringilla flavicollis*, Frankl.—*Rujjee*, H—*vulgo Junglee chooree*, i. e. *Jungle Sparrow*.—*Yellow necked or Jungle Sparrow*.

The *yellow necked sparrow* is found all over the peninsula, wherever there are abundance of trees, but it cannot be said to be a common bird any where, even in the well wooded region of the west coast, where it is more plentiful than in any other part of the peninsula. It frequents thin jungle, groves of trees, avenues, &c.; lives in small flocks, and has almost exactly the same chirping note as the common sparrow. It feeds on various seeds, grain and flower buds. It is said to breed in holes of trees. Mr. Elliot says "also breeds on old pots, and on house tops." The egg is of a greenish white, much streaked and blotched with purple brown. I obtained one from the body of a female. Colonel Sykes has placed it as a *Ploceus*, but its habits, as well as its structure, and the similarity of its notes to those of the common sparrow, have led me to replace it among the sparrows. Length $5\frac{1}{2}$ inches; wing $3\frac{3}{16}$ ths; tail 2; tarsus $\frac{7}{16}$ ths; bill to front $\frac{4}{16}$ ths; bill black; legs cinereous; irides brown.

178.—*P. ? concolor*.—New species.?

I have but a single specimen of the bird I am about to describe, which was shot on the ground in an open plain, along with a lot of the *Indian Ortolan* (*Alauda Dukhunensis*, Sykes). It does not exactly agree with the characters of *Pyrgita*, having the bill more turgid, and with the commissure slightly sinuated. The third quill is shorter than the two first, and the inner toe is shorter than the outer one, its claws moreover are less curved. I cannot, however, range it under any other of Swainson's genera, so prefer retaining it here.

Descr.—Of an uniform light ashy brown colour, lightest below (almost white indeed at chin and vent), and darkest on the quills and



tail. Length 6 inches; wing $3\frac{5}{10}$ ths; tail $2\frac{1}{4}$; tarsus rather more than $\frac{7}{10}$ ths; bill at front $\frac{4}{10}$ ths. Irides brown; bill brown above, yellowish below; legs flesh coloured yellow.

GENUS EMBERIZA, Auct.—*Bunting*.

179.—*E. melanocephala*, Auct.—*Gundum*, H.—*Black-headed Bunting*.

I do not recollect having seen the *Gundum* in the Carnatic. It makes its appearance on the table land, about the end of November, or beginning of December; associates in numerous flocks, and is very destructive to grain-fields. Few of the birds are found in perfect plumage. Length $7\frac{1}{4}$ to 8 inches; wing $3\frac{9}{10}$ ths; tail 3; tarsus $\frac{9}{10}$ ths; bill to front $\frac{5}{10}$ ths.

180.—*E. ortolana*, Auct.—Sykes' Cat.—*Ortolan* of Europe.

I have not hitherto met with the *Ortolan* of Europe.

181.—*E. cia*?—*Putthur Chirta*, H.—*Bush or hedge Bunting*.

Though I have great doubts whether this bird is the *E. cia* of authors, yet as it approaches nearly the description of that bird, and moreover is only a winter visitant to the peninsula, I think it may turn out to be identical with it.

This *bunting* is found only in the more northern parts of the table land, during the cold weather, frequenting hedges and trees in the neighbourhood of cultivation, also bushy wilds. It feeds on various grains and seeds. Found sometimes single or in pairs, at times in numerous flocks. I shall add a brief description.

Plumage above cinereous, tinged with reddish on the back and rump; beneath lighter cinereous, strongly tinged with reddish fawn colour, on throat and breast, passing into reddish white, or pale fawn colour on the belly and vent; chin whitish. Wings and tail dark brown, broadly edged with reddish fawn; outer feathers of the tail white on their inner webs. Irides brown; bill reddish; feet yellow. Length $6\frac{1}{2}$ inches; wing $3\frac{1}{2}$; tail $2\frac{1}{2}$; tarsus $7\frac{1}{2}$ tenths; bill to front hardly $\frac{4}{10}$ ths.

182.—*E. cristata*, Vigors.—Sykes' Cat.—*Crested black Bunting*.

183.—*E. sub-cristata*, Sykes' Cat.—*Crested brown Bunting*.

I have not hitherto been fortunate enough to observe either of these species of *Bunting*.

SUB FAMILY ALAUDINÆ.—*Larks*.GENUS ALAUDA, L.—*True Larks*.

There is great difficulty in making out the species of this genus from description (unless they are very minutely described both as to structure and colour), as they are all clothed in such similar plumage, and I do not feel confident that I am referring the species I have observed to their proper places, and therefore wish that my remarks may only be considered as an approximation to the truth, till the specimens have been examined and compared at home.

184.—*A. Gulgula*, Frankl.—Sykes' Cat.?

The only specimens I possess, of what I consider to be this bird, were shot on the Neilgherries, where they are very abundant. Colonel Sykes says this is the *chundoola* of India, but the bird which is so frequently caged and kept by natives under that name, answers more to the description of his '*A. Dera*'. One of my specimens differs slightly from the others in having the tail feathers more acuminate, a rather longer beak, and longer wing. This specimen agrees with the measurements of Colonel Sykes, viz. total length $6\frac{7}{10}$ inches; tail $2\frac{3}{10}$ ths; wing of this $3\frac{8}{10}$ ths. Of another specimen the tail is only 2 inches, and the wing $3\frac{6}{10}$ ths. In both the hind toe alone is $\frac{4}{10}$ ths; hind claw $\frac{7}{10}$ ths; nearly straight. Whether these differences are accidental or not, I shall not here attempt to determine. Irides brown. Chief food grasshoppers, tipulæ, and other insects.

185.—*A chendoola*, Frankl.—*A. Gulgula*, Sykes?—*Aggun*, II.

I do not possess a specimen of this bird, but have seen and cursorily examined some living birds lately. The *Aggun* of India is very common in the Carnatic, and also in the Northern Circars, I believe, but is rarely, if at all, met with on the great table land of Southern India. Having neglected to obtain specimens whilst in the Carnatic, I cannot give my minute details regarding it. Its shade of plumage is less rufous and more grey than that of the last, or of the next species: the

central marks of the feathers also are not so dark, the shade of the plumage beneath is greyish or earthy rather than rufous white, and the chin is pure white. Its bill too is much thicker and stronger than that of the last. The *Aggun* is frequently caught when young, and caged for its song, which is said to be very sweet; it also imitates the notes of other birds, but not so well as the next species. As I have never seen the first species (No. 183), except on the Neilgherries, I think that this may perhaps be the *A. Gulgula* of Sykes' Cat., but again the fact of the *Aggun* not being observed by me on the table land, and being considered as unknown here by the natives, renders this improbable.

186.—*A. deva*, Sykes.—*A. Gulgala*, Frankl.—*Cherundool* or *Chundool*, H.

This well known species appears to answer pretty exactly to the description by Sykes of his '*A. Deva*'. I suspect it may turn out to be the *A. Gulgula* of Franklin, as it appears to be more generally spread over India than any of the others.

The *Cherundool* is found all over the peninsula, but is more common in the table land than below the ghauts. It differs from the two former species in its smaller size, and especially in the form of its crest; for whilst in the two last, the crest is composed of nearly all the feathers of the head, being slightly elongated, and all capable of erection; in this bird the crest is merely confined to a few of the feathers of the forehead, the centre feathers of which especially, are much elongated, and partially acuminate, and when raised form a very elegant pointed frontal crest, which is raised at will nearly upright, the feathers of the top of the head and occiput remaining perfectly smooth. The shades of its plumage are almost exactly similar to those of the first species, its bill, however, is much stronger in proportion. The *Cherundool* is very frequently caged in all parts of the country, and the bird is kept in darkness by several layers of cloth being wrapped round the cage, the custom being to wrap an additional covering round the cage every year. In this state it sings very sweetly, and learns to imitate most exactly the notes of various other birds, and animals even, such as the yelping of a dog, the mewing of a cat, &c. &c. It feeds on various insects, chiefly grasshoppers, and in default of this food on various grains and seeds. Irides brown. Length 6 inches; of wing $2\frac{4}{10}$ ths; tail $2\frac{2}{10}$ ths; tarsus about 1 inch; hind toe alone $\frac{3}{10}$ ths; claw $\frac{4}{10}$ to $\frac{5}{10}$ ths.

187.—*A. Dukhunensis*, Sykes.—*Emberiza Baghaira*, Frankl. Cat. ? *Baag-geyra Lark*.—*Latti* ? *Baghaira* or *Baghōda* of some *Shikarees*, H.—*Ortolan* of Europeans.—*Social Lark*.

This bird as described by Sykes, is most probably the *Emb. Baghaira* of Franklin's catalogue, but as the only description of the *Baag-geyra Lark* I have access to, is very brief, I cannot be certain. This bird appears on the table land of India in October. It associates in vast flocks, frequenting the bare grass downs, and is fond of damp spots, as at the edge of tanks, &c. It also frequents grain-fields, and almost always retires to them for shelter during the heat of the day, from whence it does not in general issue again till next morning. They are so numerous occasionally, that 4, 5 or 6 dozens are sometimes killed at a shot, and numbers are often netted in some parts of the country, as I learn from Mr. Elliot's notes. When in good condition it is highly esteemed for the table. The *social lark* does not breed in this part of India, and quits it for the north in March. Irides deep brown. Length $6\frac{1}{4}$ inches; of wing 4; tail $2\frac{2}{10}$ ths; tarsus $\frac{9}{10}$ ths; hind toe alone hardly $3\frac{1}{10}$ ths; claw about the same.

GENUS MYRAFRA, Horsf.—*Thick billed Lark*.

188.—*M. phœnicura*, Frankl.—*Reytul*, H. of some; *Ageea*, H. of others.—*Red bellied lark*.

The *red bellied lark*, is found over all the peninsula, but is much more common in the Deccan, than below the ghauts. It frequents the open plains, preferring the barest spots, ploughed land, stubble fields and beds of nullabs. It sometimes, though rarely, perches on bushes. Its habits are much those of the *Larks*. It feeds chiefly on seeds of various kinds, also on insects occasionally. Its abrupt jerking flight has been already noticed by Colonel Sykes. It frequently ascends suddenly in the air by a few interrupted strokes of its wings, and uttering at the time a pleasant loud whistle-like note, sounding something like *Too whee*; it then descends with a sudden fall, changing its note to a low lark-like warbling; when close to the ground it again repeats this, and so on for several times. Irides brown; bill horny above, flesh coloured below; legs flesh coloured. Length 6 inches; wing $4\frac{2}{10}$ ths; tail $2\frac{4}{10}$ ths; tarsus $\frac{9}{10}$ ths; hind toe alone $\frac{3}{10}$ ths; claw the same, nearly straight; bill to front $\frac{3}{10}$ ths; gape $\frac{7}{10}$ ths.

189.—*M. Javanica*?—*Ageea*, H. of some, *Junglee Ageea* of others.—*Red winged Lark*.

As I have no description of *M. Javanica*, I merely refer my bird to that species at a venture, but think, as it is mentioned in Franklin's catalogue, it is probably the same. I have only observed this species among stony and bushy hills, and low jangly plains in the northern part of the Deccan. It is never found on the bare plains like the last. It is found single or in pairs, is a wary bird when roused, flying a short distance, and seating itself behind a bush on the ground, or perching on the back part of the bush, which it does much more frequently than the last. Feeds on various seeds. I add a brief description. Above of a reddish brown or fawn colour, of various intensity; the feathers centred darker, and edged with lighter. Feather of head elongated, bright rufous fawn; centred with brown; quill feathers cinnamon rufous, tipped with dusky, tail brown, centre and external feathers edged with rufous. Beneath white, breast spotted with brown. Irides dark brown. Length $5\frac{1}{2}$ inches; of wing $3\frac{2}{10}$ ths; tail 2; tarsus $\frac{8\frac{1}{2}}{10}$ ths; hind claw alone $\frac{3}{10}$ ths, longer than its toe; bill at front $\frac{4}{10}$ ths; to gape $\frac{5}{10}$ ths.

GENUS AGRODOMA, Swains.—*ANTHUS*, Auct.—*Tit Lark*.

190.—*A. agilis*.—*Anthus agilis*, Sykes.—*Roogail*, H.—*Common Tit lark of India*.

Although by no means certain that this is the '*A. agilis*' of Sykes, yet as it is the most common species in India, I have ventured to consider it as such, adding a brief description for the sake of comparison. The *Roogail* is tolerably common over all India, frequenting the open grass downs, stony plains, and also not unfrequently the beds of rivers, tanks and other moist places. It runs swiftly along the ground, and when raised takes but a short flight. It feeds chiefly on various insects. It probably represents the *A. pratensis* of Europe, to which it appears to have a very close resemblance, but Colonel Sykes has pronounced them distinct.

Descr.—Above light olive brown, the feathers centred with a darker shade; beneath of a reddish or earthy white; the breast striated with brown lines; and a narrow line of same colour down each side of the throat.

My specimens vary in size from $6\frac{1}{4}$ to $6\frac{3}{4}$ inches; wing $3\frac{5}{10}$ ths; tail

$2\frac{1}{2}$; tarsus $1\frac{3}{8}$ th; hind toe alone $\frac{4}{8}$ th; do. claw (slightly curved), nearly $\frac{5}{8}$ ths; bill to front $\frac{4\frac{1}{2}}{8}$ ths; at gape $\frac{7}{8}$ ths. Irides brown; legs flesh coloured. I have one specimen not differing in colour, the wing of which is only $3\frac{2}{8}$ ths; hind claw perfectly straight, and the hind toe only about $\frac{3}{8}$ ths of an inch. Is this a mere variety?

191.—*A. rufescens*.—*Anth. rufescens*, Auct.?—*Hill Titlark*.

This bird which approaches very closely the descriptions of the *A. rufescens* of Europe, I have hitherto found only on the grassy hills of the Neilgherries, where it is tolerably common. It runs briskly along the ground, and flies only a short distance. On one or two occasions, I observed it perch on a tree. I found its food to consist of various insects.

Descr.—Above of an olive yellow; the feathers centred with dark brown; beneath and superciliary mark of a light rufous tinge, darkest on the breast, which as well as the sides and belly are streaked with brown. Length $6\frac{4}{8}$ th inches; wing $3\frac{2}{8}$ ths; tail $2\frac{1}{2}$; tarsus nearly 1; hind toe alone nearly $\frac{5}{8}$ ths; do. claw $\frac{4}{8}$ ths, fully curved; bill shorter and stronger than in the other species. Length to front $\frac{4}{8}$ ths; at gape $\frac{6}{8}$ ths.

192.—*A. rufula*.—*Anth. rufulus*, Vieill. Ency. Meth. p. 326.?—*Chilloo*, H.—*Pale or rufous Titlark*.

As the description of the *Anthus rufulus* of French authors, appears somewhat to coincide with my specimens, I have for the present considered them as the same. The *Chilloo* of *Shikarees* is tolerably common on the bare stony plains of the table land; I am not aware if it is also an inhabitant of the Carnatic. It has similar habits to others of the genus.

Descr.—Above of a pale rufous grey tint; the feathers centred with dusky, most distinctly on the head, hardly at all on the back and rump, beneath and superciliary stripe, pale fawn colour, whitening towards the vent and on the chin; breast very faintly marked with pale brown streaks; a brown stripe runs from the gape below the ear, and another from the lower edge of the under mandible, down the throat on either side. The wing coverts are brown, very broadly edged with fawn colour. The two centre feathers of the tail are also brown, edged with fawn, the external nearly all of that colour, the next to it tipped and edged only, and the remainder all deep brown. Irides brown; bill

horny above, pale fleshy below; legs flesh coloured. Length nearly 7 inches; wing $3\frac{6}{10}$ ths; tail about 3; tarsus 1; hind toe alone $\frac{3}{10}$ ths; hind claw rather more than $\frac{3}{10}$ ths; more curved than in *A. agilis*; bill to front $\frac{5}{10}$ ths; at gape $\frac{7\frac{1}{2}}{10}$ ths.

193.—*A. similis*.—New species?—*Large Titlark*.

Descr.—The description of the last species will apply exactly to this very similar bird, with this exception, that the centre markings of the feathers are still more indistinct in this one; and that the fawn colour of the plumage beneath, extends over all the abdomen, vent, and under tail coverts. It differs, however, remarkably in size and in some points of structure. Length $8\frac{1}{4}$ inches; wing $3\frac{9}{10}$ ths; tail $3\frac{6}{10}$ ths; tarsus $1\frac{1}{10}$ th; hind toe alone $\frac{4}{10}$ ths; hind claw $\frac{4}{10}$ ths; more curved than in *A. rufula*. Bill at front $\frac{6}{10}$ ths; at gape $\frac{9}{10}$ th. Besides the structural differences shewn in these measurements, this differs from the last in the bill being slightly curved, both at the culmen and commissure. Irides brown; legs flesh coloured. I only once observed this large *Titlark* in an open stony plain, there were a pair of them together, and I noticed that their flight was performed somewhat differently to that of the *Titlarks* in general, there being a more frequent flapping of the wings. I found fragments of insects in the specimen I then procured.

GENUS MEGALURUS, Horsf.

193.—bis.—*M. ruficeps*, Sykes.

I have not hitherto observed this species.

SUB FAMILY PYRRHULINÆ, Swains.

GEN. PYRRHULAUDA.—*Finchlark*.

194.—*P. cruciger*.—*Fringilla cruciger*, Temm. P. C. 260-1.—*Alauda Gingica*, and *Duree Finch*, Lath.—*Emberiza Gingica*, Gmel.—*Decora*, H. vulgo.—*Dubhuk Choree* i. e. *Squat Sparrow*.—*Black bellied Finchlark*, or *Squat Finch-Ortolan* of some Europeans.

*
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This curious little bird is extremely common in all parts of India, frequenting the open plains and cultivated grounds, and common on roads or any other bare spots of ground. Its habits are quite those of a *lark*. It is still more remarkable than the *Mirafra phœnicura*, for the sudden ascents and descents of its flight, mounting up some height by a few flappings of its wings, and then descending almost perpendicularly till close to the ground, when it again rises as before, and repeats this several times. In general, it takes but a short flight, and on alighting, squats so close that, as Colonel Sykes remarks "it almost allows itself to be ridden over ere it rises." It occasionally may be seen seated on a house top, but I never saw it perch except on one occasion, when I observed some 12 or 15 of them perched on a low tree close to a house in cantonment. This was during the height of the hot weather. I was fortunate enough to obtain the nest and eggs of this bird very lately (in February). The nest is composed of woven thread, mingled with some fibres of grass, and one or two small fragments of cloth. The sides are hardly raised at all, it was placed in a slight hollow on the open plain near a river, and contained two eggs of a slight greenish grey tint, spotted with brown, chiefly at the larger end. Length $4\frac{3}{4}$ inches; wing 3; tail $1\frac{6}{10}$ ths; tarsus $\frac{6}{10}$ ths; hind toe and claw $\frac{4}{10}$ ths; bill to front $\frac{3}{10}$ ths; at gape $\frac{4}{10}$ ths. Irides reddish brown; bill flesh coloured, with a tinge of horny; legs flesh coloured.

GENUS HÆMORHIOUS, Swains.

195.—*H. ? roseus*—*Coccothraustes rosea*, Vieill. Encly. Meth. p. 1010. *Ois. Chant*, pl. 65.—*Fringilla rodepepla*, Vigors? Gould's Cent. Him. Birds.—*Loria Madagascariensis*, and *Lox. Totta* of English authors. *Tootee*, H.—*Rose Finch*.

I am not quite certain if the *Rose Finch* of India belongs to Swainson's genus *Hæmorhous* or not, but as far as I can make out, it appears to do so. It appears to be the species named as above by Vieillot, and if so, the name of *F. rodepepla* must sink to a synonym. The *Tootee* of India arrives in this country from the north, about November, and remains till March. I first saw it in thick jungle at the bottom of the Conoor pass, busily engaged in eating the seeds of the lofty bamboos there. I have seen it also several times in large groves of trees in the northern part of the table land. It associates in flocks of various numbers,

and devours various grains, especially *Jowarce* (*Andropogon Sorghum*), and also rice, and in default of these, various other grains, seeds and even flower buds, and young leaves of trees. It is occasionally caught and domesticated on account of its song, which is said to be very sweet. Vieillot says "it is often brought from India alive, and bears the climate well." It is said not to be bred in any part of India. Irides brown; bill and legs pale brown. Length $6\frac{1}{2}$ inches; wing $3\frac{5}{10}$ ths; tail $2\frac{1}{4}$; tarsus not quite $\frac{5}{10}$ ths.

FAMILY BUCERIDÆ.—*Horn bills.*

GENUS BUCEROS.—*Horn bill Toucan* of residents in India.

196.—*B. Cavatus*, Shaw.—Gould's Cent. Him. Birds.—*Garuda* of the natives of the forests.—*Malah-moraykey*, Mal.—*Largest Horn bill.*

I have not myself been fortunate enough to procure a specimen of this *large Hornbill*, but have seen it on several occasions in the thick jungles of Malabar, and in the Coonoor pass of the Neilgherries. I take the following account of it from Mr. Elliot's notes, who met it in the Soonda jungles.

Descr.—"Back, wings, belly, chin and bar on the tail black; neck, tail, thigh, wing spot, tips of scapulars and remiges white; bill vermilion above, passing into yellow, the lower mandible whitish, at the base black. The male bird has the space between the prominence and the true beak in front also blackish, from which a black stripe runs down the crest of the beak, towards the point, and the posterior termination of the prominence is also dusky in the male, red in the female." Length—male upwards of 4 feet; female 4 feet; weight of the latter $6\frac{1}{2}$ lbs; bill from point to gape in a straight line 10 inches; from point to end of protuberance $13\frac{1}{4}$ inches; protuberance $7\frac{1}{2}$ inches long; $3\frac{1}{4}$ broad.

"At the root of the tail of this bird on upper side, immediately above the vent, is a small sac, in which is a bundle or pencil of short bristles, forming a brush, from which exudes a yellow oily secretion, with which the bird appears to dress the white wing spot; when first shot the yellow colour comes off the bill in considerable quantities, and the

only parts of the body besides, that are stained with this colour, are, the wing spot, rump, and the small crest on the back of the head; this latter but slightly. This yellow substance continued to exude from the brush, long after the specimen was prepared and dry. The *Garuda* is sacred to *Vishnoo*, among the inhabitants of the forests, as the *Brahminy Kite* is in the open country."

This *Hornbill* is very shy and difficult to approach. The noise of its wings when flying is very loud, and can be heard a long way off. The Malyalum name signifies, I am informed, "*That makes the jungles resound.*"

197.—*B. Malabaricus*, Gmel., Lath.—*B. Albirostris*, Shaw, Wagler.—*Dhanesa*, Sanscrit.—*Dhanchooree*, H.—*Ibba Hakee*, Can.

This *hornbill* is to be met with wherever there is lofty forest jungle, and of course is most plentiful on the Malabar coast, but even here it is far from being a common bird. It lives in parties of four, five, six or more, and lives on fruit and berries of different kinds. Length of one specimen from forehead to tip of tail 31 inches; of wing $13\frac{1}{4}$; tail 14; tarsus $2\frac{6}{10}$ ths; of bill straight to gape $6\frac{1}{2}$ inches; of protuberance alone $6\frac{1}{2}$; from tip of bill straight to posterior angle of the protuberance $8\frac{1}{2}$ inches.

198.—*B. Gingianus*, Lath.—*B. Oxyurus*, Wagl.—*Chakrotra*, H.—*Common Grey Hornbill*.

This bird is spread all over the peninsula, frequenting not only jungles, but also not unfrequently large groves of trees and avenues (in the more wooded parts of the open country). Like the last, it is generally seen in small parties or sometimes single. I have generally found fruit in the stomach of this bird, but on one occasion I found some large insects, chiefly mantides. Length from forehead to tip of tail 22 inches; of wing 8; tail 10; tarsus 2; bill straight to gape 4 inches.

199.—*B. Gingalensis*, Shaw.—*B. Pyrrhopygus*, Wagl.—*Kooldal Hakee*, Can.—*Jungle Grey Hornbill*.

I have hitherto only seen this species but once or twice, frequenting lofty jungles in the Malabar coast. I found its food to consist of various kinds of fruits and berries. Bill whitish yellow; total length 22 inches; wing $8\frac{1}{4}$; tail $8\frac{1}{2}$; tarsus $1\frac{6}{10}$ ths; bill straight to gape $4\frac{1}{4}$; breadth at base $1\frac{2}{10}$ ths.

(To be continued.)

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I.—*Catalogue of the Birds of the Peninsula of India, arranged according to the modern system of Classification; with brief Notes on their Habits and Geographical Distribution, and description of new, doubtful and imperfectly described Species:—By T. C. JERDON, Assistant Surgeon, 2d Madras Light Cavalry.*

(Continued from No. 26 page 80.)

TRIBE SCANSORES.

FAMILY PSITTACIDÆ.—Parrots.

SUB FAMILY MACROCERCINÆ.—Long tailed Parrots.

GENUS PALÆORNIS.—Ringed Parrakeet.

200.—*P. torquatus*, Vigors.—*P. cubicularis*, Wagler.—*Ps. torquatus*, Gmel.—*P. docilis*, Vieill.—Perhaps also *P. bicollaris* of the same—*Lybur Totah*, or *Totah*, H.—Common red-ringed Parrakeet.

This parrot is one of the most common and abundant birds in India, frequenting the cultivated ground and gardens in all parts of the country, even the most bare and open. It is very destructive to various

kinds of grain and fruit. It associates in flocks of various size, sometimes very numerous, roosting in the holes of old trees, and flying forth to their various feeding haunts, early in the morning. When the grains are cut and fruit is scarce, it often takes long flights in search of any fruit-bearing trees, skimming close to the large trees, and when successful in its search, in general not alighting suddenly, but taking a short circle, and changing its usual mode of flight, viz. a swift and continued flapping of their wings, to a steady sailing with wings spread and turned obliquely downwards, and thus alighting on the tree speedily commences its meal. Its flight is very swift, and it generally keeps up a harsh scream when in motion. It is, however, at all times a noisy bird. It breeds in holes of trees during the hot weather, laying, as I am credibly informed, 3 or 4 white eggs.

Irides light yellow; bill lively red above, dusky beneath. Length 16 to 18 inches; wing 7; tail 10 to 11.

201.—*P. Alexandri*, Vig.—*Psitt. Alexandri*, Auct.—*Rae-Totah*, H.—*Large red-ringed Parakeet*.

This species is much more rare than the last, and I have only seen it on two or three occasions. The first time I became aware of its being found in the peninsula was seeing one carried off in an open space in the jungles of Malabar by a Shaheen (*Falco Aldrovandi*), which dropped it on my firing at it, and I picked it up, severely wounded but still alive. I have again seen it once or twice in the neighbourhood of well wooded villages, in the northern part of the table land, and obtained 4 young ones from the nest, in a hole of a lofty tree, last December. As I am informed by shikarees that it is not very uncommon in some of the more wooded districts, I dare say I have occasionally overlooked it, mistaking it for the last; still it is comparatively so rare, that I think the previous species was most probably the one taken first to Europe from this country, and which therefore should have been named *P. Alexandri*. It breeds during the cold season.

Length about 20 inches; wing $8\frac{1}{2}$; tail 12; bill deep cherry red above, lighter and more orange red beneath; feet cinerous.

202.—*P. Bengalensis*, Vigors.—*Psitt. Bengalensis*, Gmel.—*P. erythrocephalus*, Gmel.—*P. flavicollaris*, Frankl.—*Yellow collared Parakeet*, Lath. Young bird.—*Tooeah Totah*, H.—*Red-headed ringed Parakeet*.



Palaeornis Columboides

Blue winged Parakeet

*Printed by
C.V. Kishnaray*

This lovely species is never found in the open country, being a denizen of open jungles, and also found in the clearer spaces of the denser jungles. I have seen it in Goomsoor; also brought from the jungles of the Tondiman's country in the Carnatic; on the west coast, not uncommon; and even occasionally in low jungly districts in the Deccan. It has the same habits as others of the genus. The *P. flavicollaris* of Franklin, or *plum-headed Parakeet* is always found in the same localities as the *red-headed Parakeet*, and is considered as the young bird by shikarees and others; so, though I have not seen the actual change, yet as the size and structure agree, I have no doubt that it is the same bird.

The three last species are frequently taken when young and caged, learning to repeat words and sentences with facility, and becoming very tame.

Irides light yellow; bill reddish yellow above, beneath blackish. Length 14; wing $5\frac{1}{4}$; tail 8 to $8\frac{1}{2}$.

203.—*P. Columboides*, Vigors.—*P. Melanorhynchus*, Sykes—young bird.—*Muddun Gower Totah*, H.—*Blue-winged Parakeet*.

This very elegant and chastely coloured *Parakeet* is found only in the dense and lofty forests of Malabar, as well below the ghauts as on them, attaining, as I have observed on the sides of the Neilgherries, a height of nearly 5000 feet. Its usual call is less harsh than that of the other species. I have not yet seen it domesticated. I have shot the *P. melanorhynchus*, always in company with the others, and consider it as the young bird. Whether the adult female retains the black bill or not, I do not know, as the specimens with red bills shot by me were all male birds.

Like the other species it feeds on fruit and berries of various kinds.

Irides light yellow; feet cinerous; bill lively red above, dusky beneath. Length 15—16 inches; wing rather more than $5\frac{1}{2}$; tail $8\frac{1}{2}$ to 9.

SUB FAMILY LORIANÆ.—Swains.

GENUS PSITTACULUS.—Khul, Selby.—*Lorikeet*—*Dwarf Parrot*.

204.—*Ps. vernalis*, Swains.—*Bhora* or *Bhoāra*, H.—*Red-rumped Dwarf Parrot*, or *Lorikeet*.

I am convinced that Swainson was right in separating this species

from the allied one, *P. galgulus*, for I have shot many of both sexes, and seen numerous specimens, none of which showed any approach to the plumage of the other. I have found this species only in the more open spaces of the lofty jungles of the west coast. It is most numerous, I think, in Travancore, and the more southern portions; also at the foot of the Neilgherries. I did not observe it at any considerable elevation, but I see it is enumerated in Mr. Elliot's Catalogue, as found in the Southern Mahratta Country, but only during the rains. It is found in small flocks, and while feeding keeps up a continual feeble chirping. I am informed by a gentleman who was for some time in Malacca, that either this, or an allied species (perhaps the *P. galgulus*), was often domesticated there, and that it had the same custom of sleeping with its head downwards, which the *Colies* (*Gen. Colius*) are represented to have. I found in the stomach of several birds a soft pulpy vegetable mass with a few seeds.

Irides whitish yellow; bill and legs orange. Length about 6 inches; wing rather more than $9\frac{1}{2}$; tail $1\frac{3}{4}$.

FAMILY PICIDÆ, Swains.—Woodpeckers.

SUB FAMILY PICIANÆ, Swains.—True Woodpeckers—Lul-kurphor, H.

GENUS PICUS.—Typical Woodpeckers.

SUB GENUS PICUS, Swains.

205—*P. Strictus*, Horsf. Lin., Trans. vol. xiii.—*P. Peraluimus*, Wagler.—*P. Goensis*, Auct. (bad description).—Scarlet-backed Woodpecker.

This handsome Woodpecker is found only in the dense and lofty forests of the west coast, occasionally seen below the ghauts, but most numerous on the more elevated wooded regions, and frequently seen on the summit of the Neilgherries, in the thick woods there. Its habits do not differ from those of others of the genus. The Scarlet-backed

Woodpecker appears to belong to the most typical group of woodpeckers, and is the only one of that group I have yet seen from the peninsula. It is apparently a slightly aberrant species, leading to *Hemicircus* by its short neck, and short and broad tail. The female is said by Horsfield (fid. Wagler) to differ from the male in having the feathers of the head and crest orange, instead of scarlet. The only female I procured, has the whole of the head and crest of a sooty black, each feather ended with a white drop at its termination. This, however, may have been a young bird. Irides yellow; bill blackish lead colour; feet plumbeous.

Length about 12 inches; wing 6; tail 3 inches; bill to front $1\frac{5}{10}$ th, straight to gape $1\frac{8}{10}$ th; breadth at base above $\frac{5}{10}$ ths; anterior toe (without claw) $\frac{8}{10}$ ths; versatile do. 1 inch.

The tale of this woodpecker differs from that of most others of the family, in having the 4 centre feathers equally elongated, and all exposed when the tail is closed, instead of the 2 centre ones only, as is the case in most other species. The ends of all four are very much worn, so that the barbs on either side extend a fifth of an inch beyond the shaft. Its head is very broad also, and the whole body indeed is remarkably thick and robust.

SUB GENUS HEMICIRCUS Swains.

206.—*H? cordatus*.—New species?—*Heart-spotted Woodpecker*.

Descr.—Male, forehead and head, interscapular region, back, and rump, shoulders, wing coverts, chin, throat, and stripe from lower mandible running below the ears, of a light whitish yellow; the feathers of the wing coverts with a black heart-shaped spot at their termination. Face, cheeks, long occipital crest, nape, scapulars, quills, upper and lower tail coverts, vent and tail, deep black. Beneath from throat to the vent, dull green. On the centre of the back is a brush of dark sap green feathers, rough and somewhat bristly, and some of them smeared with a viscid secretion. Bill bluish black, legs greenish black. Irides brownish red. Length nearly 6 inches; wing $3\frac{3}{4}$; tail $1\frac{4}{10}$ ths; tarsus $\frac{7}{10}$ ths; anterior external toe $\frac{5}{10}$ ths; versatile toe nearly $\frac{6}{10}$ ths; bill to front $\frac{6}{10}$ ths, at gape $\frac{8}{10}$ ths. The female differs from the male only in the forehead and head being black, the feathers tipped with very minute whitish spots. This very singular little woodpecker, which is undescribed in Wagler's Monograph of the genus, appears to belong to Swainson's sub-genus *Hemicircus*, by its

short and broad tail; short neck; large feet, and excessively long wings. Its crest is tolerably long and somewhat pointed, and when raised, from the smallness of the neck, gives a triangular appearance to the head. The body is thick and dumpy. Of what use the peculiar brush-like feathers of the back are, it would be difficult to conjecture. I have found this woodpecker in the forests of Malabar, and also seen it in the Wynaad. It is also enumerated in Mr. Elliot's Catalogue.

It is, however, a rare bird; I have temporarily named it "*Cordatus*" from the heart-shaped spots on the wing coverts.

SUB GENUS DENDROCOPUS, Swains.

207.—*D. Mahrattensis*.—*P. Mahrattensis*, Auct.—*P. hæmasoma*, Wagler.—*Red-bellied Woodpecker*.

This is the most universally spread of all the peninsular species of woodpecker. I have seen it, though rarely, in the Carnatic; frequent on the wooded west coast, though not in the denser jungles; and even occasionally met with it in groves of trees in the bare Deccan. I have seen it, also, on the summit of the Neilgherries. I found it most abundant in the Wulhar jungle, in the gap of Coimbatore.

Irides fine lake colour; bill and legs slaty. Length 7 to $7\frac{1}{2}$ inches; wing $3\frac{8}{10}$ ths; tail $2\frac{1}{2}$; exterior front toe above $\frac{4}{10}$ ths; versatile do. $\frac{5}{10}$ ths; bill to front $\frac{8}{10}$ to $\frac{9}{10}$ ths; at gape $1\frac{1}{10}$ to $1\frac{8}{10}$ ths.

208.—*D. Elliotti*.—New species. ?—*Golden-headed Woodpecker*.

I extract from Mr. Elliot's notes the description of this woodpecker, never having met with it myself. I put it as a *Dendrocopus* with doubt. If new, it may be named in honour of Mr. Elliot, its discoverer.

Descr.—"above black; crest and wing coverts, bright golden; cheeks, black spot from the eye to the occiput, and another commencing from the nape, and spreading between the shoulders, white. Chin and lower cheeks white, with five black lines running down the throat, breast and belly also white, covered with longitudinal black spots; quills blackish brown with three transverse rows of round white spots; bill and feet black. Irides crimson. Lives in pairs in cocoa-nut trees, often three or four pairs on the same tree. Only seen in one locality."

209.—*D. Moluccensis*.—*Picus Moluccensis*, Lath.—*P. variegatus*, Lath. and Wagler.—*P. bicolor*, Gmel.—*P. Pygmæus*, Vigors. Proc. Zool. Soc. 1830.—*Small-spotted Woodpecker*.

This little woodpecker is found in the more open spaces of all the larger jungles, whether on the east coast as in Goomsoor, or in the Malabar coast, where it is far from being uncommon, and is even occasionally found in avenues and gardens. In Goomsoor I found it frequenting the bamboos, and its tapping on the hard branches of these trees caused a loud sound, heard to a great distance. It does not confine itself to the larger branches, hopping and climbing actively about the smaller twigs, and feeding on various small insects and larvæ.

Irides yellow, naked orbital skin, pink colour. Length 5 inches; wing 3; tail $1\frac{1}{2}$; bill to front $\frac{5}{16}$ ths; at gape nearly $\frac{7}{16}$ ths.

I possess a specimen shot in the Wynaad, which differs from all other specimens of this bird, which I have seen (as well as from the colour of the bird well represented in Hardwicke's Illustrations) in the much darker colour of the head and back, which are almost black instead of a light sooty brown. It has also less white beneath, its bill appears to be somewhat larger, and its feet perhaps rather less, but it is so similar in other respects that I do not venture to separate it.

GENUS MALACOLOPHUS, Swains.

SUB GENUS BRACHYLOPHUS, Swains.

210.—*B. Squamatus*.—*P. Squamatus*, Vigors.—Gould's Cent. Him, Birds?—*P. dimidiatus*, of Gray and Hardwicke's Ill. I. Z? not of Temminck and Wagler.—*Scaly-bellied Woodpecker*.

Although there are some slight discrepancies between my specimens and the description and figure in Gould's Century of the *P. Squamatus*, I have little doubt but that they are identical. I have found the *scaly-bellied Woodpecker* only on the western coast in well wooded districts, from the close neighbourhood and level of the sea, to the summit of the Neilgherries, where it is tolerably abundant, both in the thick woods, and among the brushwood. It in general does not ascend high on trees, keeping to the lower branches, and I have on several occasions seen it alight on the ground. In the most perfect specimens I possess, the throat and breast are nearly entirely green, the indications of the scaly markings being faint and undecided, the belly and vent are greenish white, with the scalings of the feathers much more numerous and smaller than are represented in the plate of Gould's Century, and the spots on the tail are almost obsolete and of a greenish dusky tinge. There is also a black nuchal mark. Irides pink, surrounded by a white

circle; bill horny above, yellowish at the base and beneath; feet greenish slaty. Length nearly 12 inches; of wing $5\frac{2}{10}$ ths; tail $3\frac{3}{4}$; bill to front $1\frac{2}{10}$ ths; at gape $1\frac{6}{10}$ ths.

In the female the head is black where it is red in the male.

211.—*B. mentalis*.—*Picus mentalis*, Temm. P. C. 384? (Griff. Cuv. p. 444).—*P. chlorolophus*, Vieill., Encyl. Meth., young bird?—*Red and Yellow-crested Woodpecker*.

The brief description in Griffith's Cuvier of the *P. mentalis* of Temminck, appears applicable to specimens I have obtained from the western coast, with the exception that the throat is *not* black.

It is a rare bird. I have only seen it on two or three occasions, solitary in thick forest jungle in Travancore and Malabar. It is also mentioned in Mr. Elliot's Catalogue. However I shall here add a brief description. Head and cheek stripe red, a short occipital crest of same colour terminated by bright yellow: plumage above bright green; beneath dull sap green; the feathers banded and spotted with white. Wings greenish, with a strong orange tinge; and the external barb of most of the quill feathers of a deep orange red, internally dusky, with white spots; tail unspotted black; bill slaty, greenish beneath; legs sap green. Irides reddish brown. Length 9—9½ inches; wing $4\frac{8}{10}$ ths; tail $3\frac{2}{10}$ ths; bill to front $\frac{8}{10}$ to $\frac{2}{10}$ ths; at gape $1\frac{1}{10}$ th.

One specimen, probably the female, differs in having the forehead and head green, instead of red, and wants the red cheek stripe. The *P. chlorolophus* of Vieillot is probably the young bird, or it may be the female. The colouring of this species somewhat resembles that of the *P. Nepalensis* of Gray, figured in Hardwicke's Ill. of Ind. Zool.

212.—*B. Bengalensis*.—*P. Bengalensis*, Auct.—*P. aurantius*, Auct. (bad description).—*P. nuchalis*, Wagler.—*Brach. hemipodius*, Swains.—*P. chrysonotus*, Lesson?—*Orange and black Woodpecker*.

This is perhaps the best known of all the peninsular species, and is found wherever there is plenty of wood or high jungle, and even in groves and gardens in the vicinity of well wooded towns, as I have seen in the Northern Circars and Carnatic. On the bare table land, I have not yet observed it, but it is tolerably plentiful on the west coast, and in the wooded regions on the summit of the ghauts. It is generally seen single or in pairs. From its extensive distribution over India, it would be advisable to change its local name, either to the structural name of Swainson, or the one lately proposed by Wagler.

Irides crimson; bill blackish; legs plumbeous. Length nearly 12 inches; wing $5\frac{1}{4}$; tail 3; bill to front $1\frac{3}{10}$ ths; at gape $1\frac{6}{10}$ ths.



SUB GENUS HEMILOPHUS, Sw.

213.—*H. Hodgsonii*.—New species?—*Large white-backed Woodpecker*.

Descr.—Head, short thick crest, and stripe running from the base of the lower mandible, crimson; lower part of back, rump and middle belly white; rest of the plumage deep black; bill black; legs dark plumbeous.

Length $19\frac{1}{2}$ inches; wing 9; tail $7\frac{1}{2}$; tarsus $1\frac{1}{2}$; bill to front $2\frac{3}{10}$ ths; at gape $2\frac{8}{10}$ ths; width at base $\frac{1}{2}$ inch; the tail is much wedged; wing with 6th quill longest; 7th equal to the 4th.

This splendid Woodpecker, apparently undescribed, appears to approach in colour the *P. Javensis* of Horsfield, the *P. leucogaster* of Temm. and *P. pulverulentus* of the same, but differs according to their description by the accurate Wagler, as well in size, as in some markings, especially the white of the back, which the above named species want. It is second in size only to the lately discovered *Chilian* species (*P. imperialis* of Gould), being about equal to the *P. principalis* of America; and though inferior in typical attributes to the *P. Sultaneus* of Hodgson, is yet its superior in size. I have seen it but rarely in the most dense and lofty forest jungle, and being exceedingly wary, I did not procure a fresh specimen, but through the kindness of Mr. Vaughan, Circuit Judge at Tellicherry, I obtained a fine stuffed specimen. I have named it in honour of Mr. Hodgson, Resident at the Court of Nepal, whose name is too well known to require here any further encomium from me.

SUB GENUS MEIGLYTES, Sw.

214.—*M. badius*?—*P. badius*, Raffles.—*P. brachyurus*, Vieillot and Wagler.—*P. rufus* of Gray and Hardwicke, Ill. Ind. Zool. (not of Wagler and other authors).—*Bay Woodpecker*.

This curiously plumaged Woodpecker is a rare species in the peninsula. I have seen it in thick forest in the Wynaad, and also in an avenue in Malabar, in the close proximity of thick jungle. Mr. Elliot also met it in the Southern Mahratta Country, and in his notes says, "It is remarkable for the head being generally smeared, as also the scapulars and tail, probably from the gum of some tree."

Irides brown; bill blackish; legs slaty. Length about 10 inches; wing $4\frac{9}{10}$ ths; tail $2\frac{9}{10}$ ths; bill to front nearly $\frac{9}{10}$ ths; at gape $1\frac{2}{10}$ ths.

SUB GENUS CHRYSONOTUS, Sw.

215.—*C. tiga*.—*P. tiga*, Horsf. and Wagler.—*C. tridactylus*, Sw.—*Crimson-backed Woodpecker*.

This very elegant Woodpecker is found in the forests of the western coast, both at a low level and as high as 5000 feet, at which height I have seen it on the Coonoor pass of the Neilgherries. The specimens shot below the ghauts are considerably smaller than those I obtained at a great elevation, which latter attained the size of *P. Shorii* of Vigors, though not differing in colour from the smaller ones.

Irides fine crimson; bill and legs dark slaty. Length varies from 9½ to nearly 12 inches; of one of the latter size the wing is 5½; tail nearly 4; bill to front 1 inch; at gape 1 $\frac{4}{10}$ ths; of one 9½ inches; the bill to front is $\frac{8}{10}$ ths; at gape 1 $\frac{1}{10}$ th.

SUB FAMILY BUCCOINÆ, Sw.

GENUS BUCCO, L.—*Barbet*.

216.—*B. Indicus*, Lath.—*B. Philippensis*, Gmel. P. E. 333.—*B. flavicollis*, Vieillot.—*B. rubricapillus*, Lath. (from Brown, Illust. pl. 14.)—*B. luteus*, Lesson, albino variety.—*Kut-Khora*, H—also *Tambayut* i. e. *Copper-smith*, which name it receives also from some European residents.—*Red-crescented Barbet*.

The *Copper-smith* is extremely common in all parts of the country, wherever there are a sufficiency of trees, inhabiting open spaces in the jungles (never in the denser portions), groves, avenues, and gardens; being very familiar, approaching close to houses, and sometimes perching on the house top. As far as I have observed, it does not climb like the woodpeckers, but when feeding, hops about the branches like a perching bird. Though I never detected this *Barbet* tapping like the woodpeckers, I have once or twice had good reason for supposing that it does so occasionally. The chief food of the *Copper-smith* is fruit of various kinds, sometimes insects. When not employed in feeding, it generally seats itself on the very top of a tree, and gives utterance to its monotonous call of 'took took took' (as represented by Sykes), nodding its head at each call, first to one side and then to the other.

Irides lake red; bill black; legs red. Length 6½ inches; wing 3 $\frac{2}{10}$ ths; tail 1½; tarsus $\frac{7}{10}$ ths; bill at front nearly $\frac{7}{10}$ ths; at gape 1 inch.

217.—*B. viridis*, Gmel.—*B. zeilanicus*, Lath.—Brown, Ill. Zool. pl. 15., Le Cabezón.—*Kettorea*, Vieillot.—*B. Lathamii*, Vieillot, Encly. Meth.—*B. caniceps*, Franklin, Cat.—*Kootoomra*, H. of some shikarees.—*Kootoorga*, Mahr.—*Kootur Kakee*, Can., all named from its call.—*Brown-headed Barbet*.—*Jungle Barbet*.

This *Barbet* is found throughout India, only in the higher jungles, and is therefore of course most abundant on the west coast, where it is found from the level of the sea to the top of the Neilgherries, where it is more abundant than in any other locality I have visited. There is a very remarkable variation in the size of this species, the largest specimens being found on the Neilgherries, and degenerating in size, as you approach the coast. From Mr. Elliot's notes I extract the following interesting observations—"Seldom seen on the wing; but single birds heard on almost every tree, uttering their peculiar note which resembles the native (Canarese) name, being a continued *Kōoturr Kōturr*, or *K'turr*. They continue to call for some minute at a time, and are heard throughout the day. On each side of the throat is a naked spot with skin wrinkled, which is probably contracted and expanded when the bird is calling." This bird does not climb like a woodpecker, and I never heard any tapping from the trees it frequents. Its most general food is fruits and berries, occasionally it eats various insects. Mr. Elliot says "one was shot picking at the flowers of a small tree."

Irides reddish brown; bill and legs pale horny brown.

Length varies from hardly 8 to 10 inches; of the largest one, the wing is $4\frac{1}{2}$; tail nearly 3; tarsus $1\frac{2}{10}$ ths; and bill at gape $1\frac{2}{10}$ ths. In the smallest, the bill is only $1\frac{2}{10}$ ths; wing 4; and tail $2\frac{1}{2}$ inches.

GENUS YUNX.—L.

218.—*P. torquilla* ♀.—*Wryneck*.

Mr. Elliot obtained a single specimen of this bird, or a nearly allied species, in the middle of the month of April, in the Southern Mahratta Country. It was seated on the ground in the bed of a dry tank. I have never seen it, and add Mr. Elliot's description for the sake of comparison.

"Above of a beautiful speckled grey, with a broad irregular dark line from the crown to the middle of the back; so dark in parts as to appear almost like black spots. Cheeks and throat pale yellowish, with narrow transverse bars, which are also continued on the chin, which has a white ground. A dark broad line runs from the eye to the ear,

and another darker, narrower, and better defined down the side of the throat. Breast and upper belly white, with small triangular black spots; wing coverts have a yellowish tinge. The quills are barred with brown and isabella. Rump and tail speckled; the former with black longitudinal streaks, the latter with 3 darker, broad bands, and partially edged with black. Bill straight, round, pointed—legs shielded, of a greenish horn colour. Irides crimson.

Length nearly $7\frac{1}{2}$ inches; tongue long as in the woodpeckers."

FAMILY CERTHIADÆ.—*Creepers.*

SUB FAMILY SITTINÆ.—*Nuthatches.*

GENUS SITTA.—L.

219.—*S. castaneoventris*, Franklin, Cat.—*Chesnut-bellied Nuthatch.*

I have hitherto seen this *Nuthatch* but on one occasion, which I shot in Goomsoor, in high forest jungle. I have, however, seen specimens shot at the top of the Guzzlehutti pass, in Mysore.

Length $5\frac{1}{4}$ inches; wing 3; tail $1\frac{1}{2}$; tarsus $\frac{7}{10}$ ths; bill at front $\frac{6\frac{1}{2}}{10}$ ths; at gape $\frac{9}{10}$ ths; bill black; legs plumbeous brown.

GENUS DENDROPHILA, Sw.—*Social Nuthatch.*

220.—*D. frontalis*.—*Sitta frontalis*, Sw., Zool. Ill.—*S. velata*, Temm. P. C.—*Velvet-fronted blue Nuthatch.*

This lovely little Creeper is found in great abundance in the dense woods of the Neilgherries. I have seen it, though rarely, below the ghats, also in thick forest jungle. It hunts, in general, in small parties of five or six; is very active and restless, creeping round the horizontal branches chiefly, and seeming to prefer the under side of the branches, and also running downwards. It feeds on various small insects, which it picks off the bark, but does not tap like the common *Nuthatch*.

Irides light yellow; bill orange. Length 5 inches; wing 3; tail $1\frac{1}{2}$; bill to front $\frac{4}{10}$ ths; at gape $\frac{9}{10}$ ths; tarsus hardly $\frac{7}{10}$ ths; hind toe without claw $\frac{1}{2}$ an inch.



FAMILY CUCULIDÆ—*Cuckoos*.SUB FAMILY CUCULINÆ, Sw.—*Parasitic Cuckoos*.

GENUS CUCULUS, L.

221.—*C. canorus*, L.—*Cuckoo* of Europe.

The European *Cuckoo*, said by Franklin to be so common in Bengal, is rarely met with south of N. lat. 20. Its well known note was frequently heard in Goomsoor. Colonel Sykes too mentions it as found, though rarely, in the Bombay Deccan, and I obtained a specimen of what, I conceive, may be the young of this bird, as far south as the Tapoor pass (N. lat. 11°), and have seen the same bird apparently once or twice in wild jungly districts on the table land. I add a brief description of my bird, as I am by no means certain that it is the same as the European *Cuckoo*.

Descr.—Above brownish cinereous, the feathers all edged with white; beneath white, transversely barred with dusky brown; bill blackish; yellow at base; legs, toes and claws yellow.

Length 14 inches; wing $8\frac{3}{4}$; tail 7; tarsus $\frac{8}{10}$ ths; bill to front $\frac{7}{10}$ ths; at gape 1 $\frac{2}{10}$ ths. Should my bird prove to be a different species from the European *Cuckoo*, it is perhaps the *C. tenuirostris* of Lesson.

222.—*C. fugax*, Horsf.—*Bychan Cuckoo*, Lath.—*Koopuk*, H.—*Oopuk*, of some.—*Pipeeha* in Bengal from its note.—*Indian Cuckoo*.

The Indian *Cuckoo* is found all over the peninsula in the more wooded districts, not only in thick jungles but also in groves and gardens. It is very numerous in the thickly wooded western coast, and its loud, shrill crescendo notes, very similar to those of the *Koweel*, are heard in every avenue. It flies very like the *Shikra*, and it is frequently pursued by small birds, probably under that impression.

The *Koopuk* lives chiefly on fruit, especially the fig of the banian tree, occasionally, however, on caterpillars, and other soft insects. I extract the following from Mr. Elliot's notes regarding its peculiar cry: "The note is *whe-wheewa*, *whe-wheewa*, *whe-wheewa*, uttered 8 or 10 times, and sometimes oftener. The first syllables lower, gradually rising till the last become extremely loud and shrill."

The dark spots on the breast and belly of this bird, have the same character as those of the hawks, being longitudinal in the young bird, and becoming transverse with age.

Irides bright yellow; bill brown; yellowish at the base; gape, eyelids and feet, of a deep bright yellow. Length 13 inches; wing 8; tail 7 tarsus $\frac{9}{10}$ ths; bill to front $\frac{8}{10}$ ths; at gape 1 $\frac{2}{10}$ ths.

223.—*C. Himalayanus*, Vigors. Gould's Cent. Him. Birds.—*C. tenuirostris*, Gray and Hardwicke's Ill. Ind. Zool.—*Small Bay Cuckoo*.

This very elegantly marked *Cuckoo*, supposed to be confined to the Himalayan mountains, is found, though rarely, all over the peninsula, in thick forest jungle. I have observed it once or twice only, in Malabar, and in the Coonoor ghaut, but have seen specimens from Travancore, where it appears tolerably abundant, and also from the eastern range of ghauts, about the lat. of Madras. The stomach of the only specimen I shot, contained caterpillars.

Length a little more than 10 inches; wing 5; tail 5; tarsus $\frac{6}{8}$ ths; bill to front $\frac{7}{8}$ ths; at gape rather more than 1.

224.—*C. flavus*—Gmel., Lesson Traité p. 151?—*C. honoratus*?—*C. Sonneratii*?—*C. lugubris*, Horf. ?.—*Powsya*, Mahr.—*Plaintive Cuckoo*.

Among the imperfect descriptions of authors it is often difficult to determine correctly many species, but when the changes of plumage of the bird are themselves considerable, the difficulties are greatly increased. Such is the case with regard to the bird I am now going to mention. The *Plaintive Cuckoo*, as it may be appropriately named, is an inhabitant of the western coast of the peninsula, and is found alike in thick jungle, and in the more open spaces, and even in gardens and avenues. Though I frequently heard it, I only obtained two specimens, and am indebted to Mr. Vaughan for the examination of a third. I have neither seen nor heard it in any of the other districts of the peninsula. It is found at all levels from that of the sea, to the top of the Neilgherries, about Coonoor and Kotagherry, where it is found in thick bushy ground. Like the other cuckoos it is found single or in pairs. It has a most sweet and plaintive note, which is often heard, and which sounds something like the last syllable, being *whě-whěw, whe-whě-ě-w*, much lengthened out, and very plaintive. I found its food to consist chiefly of caterpillars. I shall add a brief description of the three birds I have had the means of observing.

The first is entirely of a dark cinereous tint, with a strong gloss of green throughout; tail blackish, edged with rufous; quills beneath cinereous. A second specimen has the same glossy green colour above, with the exception of the rump (which is lighter cinereous without any green),

and the forehead, which also is nearly devoid of the green, chin and throat cinereous; breast darker do. banded with rufous and white; belly pale cinereous, faintly marked with pale rufous and white; under tail coverts white; tail black; the inner webs banded with white (except the 2 centre ones), and all tipt white.

Another specimen has the plumage above entirely cinereous, with a slight indication of the greenish gloss on the wings only. Tail as in the last, beneath pale cinereous, vent and under tail coverts white, quills with a broad white band on their internal webs.

Irides, in one specimen (the last) of a fine ruby red. In the first one of a blood red, bill blackish red beneath (at the base), also at the gape and internally; feet reddish.

Whether this bird is identical with *Cuc. flavus* of Gmel. or a different species altogether, I leave to be decided hereafter.

Length 9 inches; wing $4\frac{1}{2}$; tail $4\frac{1}{2}$; tarsus $\frac{7}{10}$ ths; bill to front $\frac{6}{10}$ ths; at gape $\frac{9}{10}$ ths.

225.—*C. dicruroides*.—*Pseudornis dicruroides*, Hodgson, Journal A. Soc. of Bengal, No. 86. p. 136.—*Drongo Cuckoo, or Black fork-tailed Cuckoo*.

This most extraordinary species of *Cuckoo*, disguised so effectually in the garb of the common *King Crow* (*Dicrurus*), has been lately described and figured by Mr. Hodgson, in the Journal of the Asiatic Society of Bengal. I obtained a single specimen in the Wynaad, near Manantoddy, and never again observed it. As Mr. Hodgson's paper may not have been seen by some of the readers of this Journal, I add his description—"Black with a changeable blue or green gloss—inner wing and tail coverts, and pair of extreme tail feathers, cross-barred with white. An oblique white bar across the wings internally, and high up. Bill black. Irides hoary brown; palate red. Legs and feet blue, 10 to $10\frac{1}{2}$ inches long; bill $1\frac{1}{10}$ th; tail $5\frac{1}{2}$ to $5\frac{3}{4}$; tarsus $\frac{1}{10}$ ths. Long anteal toe $\frac{1}{10}$ ths; long postal do. $\frac{9}{10}$ ths; weight $1\frac{1}{2}$ oz. Sexes alike, exclusively monticolous and a forester. Tail of 10 feathers divaricated and forked. The two extreme feathers smaller than any of the rest." Mr. Hodgson further says that "the *cuculus lugabris*, will I think, be found to have a forked-tail, and to constitute a second species of our proposed new genus."

I can only add to this, that in my specimen the legs were reddish, as in the last species, and that the wing is $5\frac{2}{10}$ ths long. Irides also were reddish brown. I may mention that I had in my manuscript notes named this bird "*dicruroides*" or '*dicruricaudus*,' a name which its extraor-

obtained an egg from the female *Koweel*, it was of a dirty blue colour, marked with some dusky spots.* Irides fine blood red.

Length of male $15\frac{1}{2}$; of female $16\frac{1}{2}$; wing of latter $7\frac{3}{4}$; tail $7\frac{1}{2}$; bill at gape $1\frac{4}{8}$ ths.

GENUS XANCLOSTOMUS, Sw.—MELIAS, Less.—PHÆNICOPHAUS, Auct.

229.—*X. viridirostris*.—New species?—*Melias tristis*, Less.?—*Melias diardi*, Less.?—*Cuc. Sumatranus*, Raffles?—*Green-billed Cuckoo*.

I cannot find in Lesson or Cuvier a description of this *Cuckoo*, though that of the *Melias tristis* and *M. diardi* of Lesson, somewhat approaches it. It differs, however, in several particulars from either, and especially in size.

Descr.—Above blackish cinereous, with a tinge of green; wings and tail glossy green black, the latter tipped with white; beneath light greyish, with a tinge of fawn colour, and mixed with blackish on chin and throat.

Irides fine blood red; naked eye-spot cobalt blue; bill beautiful apple green; legs and feet greenish black. Length about 15 inches; of which tail is 10; wing $5\frac{1}{4}$; tarsus $1\frac{3}{8}$ ths; bill to front 1 inch; at gape $1\frac{3}{8}$ ths.

The *Green-billed Cuckoo* is found over all the peninsula, but it is an uncommon bird, except in some few localities. I have seen it in thick bamboo jungles at the bottom of the Coonoor pass, in thick hedges and trees in the Carnatic; and in bushy jungle in the Deccan. It wanders about from tree to tree, or works its way through the thick hedges, and feeds on various large insects, such as grasshoppers, mantides and the like; also on caterpillars and other insects. It makes its way with great adroitness through the thick prickly hedges and bushes it delights to frequent.

230.—*X. Sirkee*.—*Eudynamys sirkee*, Gray and Hardwicke's Illustrations of Ind. Zoology.—*Red-billed Cuckoo*.

I have seen this bird in bushy ground on the top of the Neilgherries, but in no other locality till I lately met with it in a hilly and low jungly district, near Jaulnah. It has the same wandering habits, and same kind of food as the last species.

Irides reddish brown; bill cherry red, yellowish at tip; feet plumbeous. Length 16 to 17 inches; wing $6\frac{1}{4}$; tail $9\frac{1}{2}$; tarsis $1\frac{1}{2}$; bill to

* This bird is said to be excellent eating:

front 1; at gape $1\frac{3}{8}$ ths; feathers of head and neck with the shafts of the feathers black, glistening and bristly.

GENUS CENTROPUS, Ill.—*Lark-heeled Cuckoo*.

231.—*C. Pyrrhopterus*.—*C. Philippensis*, Cuv.—*Corydonix pyrrhopterus*, Vieillot.—*Cen. bubulus*, Horsf.—*Mahooka*, H.—*Crow Pheasant* of Europeans of India.

The *Crow Pheasant* is a common and universally spread bird, frequenting wooded and cultivated grounds, in all parts, and found also in the more open spaces of thick jungles. It is often seen in thick hedges, also in woody nullahs, and in low bushy tracts. It feeds on the ground chiefly, walking and running with great facility, and picking up various large insects, centipedes, lizards, and even scorpions and small snakes. It may often be seen walking along the bank of a dry tank, a bund of a paddy-field, and being a remarkably slow and stupid bird, and of slow flight, it is occasionally run down, or even caught by the hand, in sufficiently open ground. A good shikra will also easily strike it down.

The *Mahooka* has a deep sonorous call, something like 'whoot, whoot, whoot,' which is often heard in a thick bush or hedge, while the bird itself remains unseen.

Irides crimson red; bill and legs blackish. Length 19 to 20 inches; of which the tail is 10 to 11; wing $7\frac{1}{4}$; tarsus 2 inches; bill to front $1\frac{3}{8}$ ths; at gape $1\frac{6}{8}$ ths.

TRIBE TENUIROSTRES.

FAMILY CINNYRIDÆ.—*Sun birds*.—*honey eaters*.

GENUS CINNYRIS, Cuv.—*Shukur-hora*, H. i. e. *Sugar-sucker*.*

232.—*C. Mahrattensis*.—*Certh. Mahrattensis*, Shaw.—*Cinnyris orientalis*, Frankl.—*C. cyanæus*, Vieill.—*Certhia Asiatica*, Lath.—*C. curru-caria*, Auct., Young male.—*Purple honey sucker*.

This appears to be the most generally spread of all the *Cinnyrides*, and is the only one I have met with in the bare table land. In the Carnatic it is less numerous, I think, than the two next species.

* Called *Humming birds* by Europeans in India.

I have lately (February) seen the nest of this pretty little bird close to a house in Jaulnah. It was commenced on a thick spider's web, by attaching to it various fragments of paper, cloth, straw, grass and other substances, till it had secured a firm hold of the twig to which the web adhered, and the nest suspended on this was then completed by adding other fragments of the same materials.

The hole is at one side, near the top, and has a slight projecting roof or awning over it. The female laid 2 eggs, of a greenish gray tinge, spotted with dusky. The first nest it made was accidentally destroyed after two eggs had been laid, and the couple immediately commenced building another, in a small tree at the other side of the door, and, as in the first instance, commenced their operations on a fragment of spider's web. They reared two young ones from this nest.

The *Purple Honey-Sucker* has a very feeble, but sweet, chirping note. It feeds like others of the genus, partly on the honey extracted from flowers, and partly on minute insects, flies, cicadariae, &c. It occasionally hovers on the wing before a flower, while extracting the honey, but generally hops or flies rather among the smaller twigs. Occasionally I have seen it snap at an insect in the air. Whilst feeding it frequently opens and closes its wings. The *C. curruccaria* is certainly the young male of this bird, the outline and structure are the same, and in Jaulnah it is of frequent occurrence, no other species of *Cinnyris* but the *purpuratus* being found here: besides I have specimens in which the change to the adult plumage is nearly completed. I shall add a very brief description to show its difference from the next species.

Plumage above, of a glossy steel blue; beneath glossy purple; quills and tail black; plume of orange and yellow feather under the wing; bill and legs black. Length $4\frac{1}{2}$ inches; wing $2\frac{5}{10}$ ths; tail $1\frac{1}{2}$; tarsus $\frac{6}{10}$ ths; bill straight to front $\frac{7}{10}$ ths.

Female, above greenish brown grey; beneath pale yellow; darkest on the throat; tail black; quills dusky.

I have seen this bird on the very top of the Neilgherries, which shews what a great degree of cold some of this tropical genus will suffer without inconvenience.

233.—*C. polita*.—*Certh. polita*, Lath.—Ois. Dor. pl., 11—*Certh. falcata*, Lath. ?—*Certh. purpurata*, Lath. ?—*Glossy green Honey-sucker*.

I have seen this very handsome bird in the Carnatic and west coast, where it is tolerably common, frequenting both gardens and jungles. Food and habits of the last.

Descr.—Above, glossy green; wings and tail dull black; throat and breast rich purple hue. A narrow bright maroon red collar intervenes between the rich purple of the breast and the dull blackish brown of the belly and vent; a tuft of orange and yellow feathers under the wing, as in the last; bill and legs black. Length $5\frac{1}{2}$ inches; of wing $2\frac{3}{10}$ ths; tail $1\frac{6}{10}$ ths; tarsus $\frac{6}{10}$ ths; bill straight to front one inch. Female, above light greenish brown, quills darker; tail black; beneath pale yellow: only differs from the female of the last in the darker tint of the plumage above.

The male, though sometimes confounded with the last species, differs most conspicuously in the much longer and more arched bill, and the green play of colours in the upper plumage.

234.—*C. Soia*, Vieill. Ency. Meth. and Lesson.—*Certh. Zeylonica*, Lath.—*C. lepida*, Sykes' Cat.? not of other authors.—*Amethyst rumped Honey sucker*.

This species appears to be more abundant in the Carnatic than in any other part of the peninsula. In that district it is very common, and to be seen in almost every garden, flitting about from flower to flower, its brilliant hues every now and then displayed to the eye as it catches their reflection by the sun.

I presume that this is the *C. lepida* of Sykes' Catalogue, as that is an allied species, but the descriptions I have access to of that bird do not agree with this one, and moreover in Lesson's *Traité* the *C. lepida* is also mentioned as well as this species, and said to have been received from Amboyna. Nevertheless it may also be found in the west of India. Mr. Elliot says of this species "builds a hanging nest with an entrance near the top, opening downwards." I add a brief description: Male, head and angle of the wings glossy green; throat, neck, rump and upper tail coverts amethystine; back and coverts, with narrow pectoral bar maroon red; beneath yellow, wings brown, quills edged with cinnamon; tail black, bill and legs do. Female, olive green above, beneath yellow, chin and throat white, wings and tail as in male. Length $4\frac{1}{2}$; wing $2\frac{3}{10}$ ths; bill straight to point $\frac{5\frac{1}{10}}$ ths.

235.—*C. minima*, Sykes.—*Smallest Honey Sucker*.

This lovely plumaged little species I have only found but rarely in high forest jungle in Malabar. It is very much allied to the last in colouring, but differs, besides its smaller size, in the tint of the red on the back, which is much richer in this one; there is no green on the shoulders, the green of the head also is purer; and the quills are not

edged with cinnamon. Length $3\frac{3}{4}$; wing $1\frac{2}{5}$ ths; bill straight to front $\frac{5}{8}$ ths;

236.—*C. Vigorsii*, Sykes.

I have not been lucky enough as yet to fall in with this splendid species of *Cinnyris*.

GENUS DICÆUM, Cuv.

237.—*D. concolor*.—New species?

Descr.—Above, brownish olive; beneath greenish white; wing and tail brown. Irides brown; bill and legs brownish cinereous. Length $4\frac{2}{5}$ ths; wing $2\frac{1}{5}$ ths; tail $1\frac{1}{5}$ th; tarsus $\frac{1}{2}$ inch; bill straight to gape $\frac{1}{2}$ inch; to front $\frac{4}{5}$ ths. Sexes alike.

This, if a true species of *Dicæum*, differs from its congeners in the plain and sober colours of its plumage. I have found it in the forests of Malabar, and also on the summit of the Neilgherries. It frequents the highest branches of lofty trees, hopping actively about the small twigs and flower branches, and feeding on various minute insects.

SUB FAMILY PROMEROPIDÆ.

GENUS UPUPA, L.—*Hoopoe*.

238.—*U. minor*.—*Hood-hood*, H., from its call.—*Hoopoe*.

The Indian *Hoopoe* is a tolerably common bird in every part of the peninsula of India; frequenting woody places, groves, single trees, hedges, and about old walls and other buildings; and to be seen in almost every garden. It feeds entirely on the ground, walking along with ease, and picking up various insects as it moves along.

The *Hood-hood* (a name which expresses its call much better than our English term) breeds, I am informed by shikarees, in the hot weather in holes of old walls and other buildings.

TRIBE FISSIROSTRES.

FAMILY MEROPIDÆ,

GENUS MEROPS, L.—*Hurrial*, H.

239.—*M. Indicus*.—*Hurrial* and *Putringa*, H.—*Common Indian Bee-eater*, often called by Europeans *Green flycatcher*.

This well known and common bird is spread in numbers over all India. It generally hunts like the true *flycatcher* from a fixed station, which is either on the top or upper branch of a high tree, or on the branch of a shrub or hedge, a bare pole, stalk of grain or grass, or some old building. Here it sits looking eagerly around, and on spying an insect, which it can do a long way off, flies off and captures it on the wing, with a distinct snap of its bill, and then returns to its perch, generally sailing slowly with outspread wings, the copper burnishing of its head and wings shining conspicuously in the sun beams. Sometimes it hunts alone, at other times in small parties, seated near each other; frequently it captures one or two insects before it returns to its perch; and in the morning and evening considerable numbers are often seen, sometimes in company with *swallows*, hawking actively about, and apparently catching many insects. The *bee-eater* also often changes its perch, taking up a fresh one at some distance. It has a peculiar loud, yet rather pleasant whistling note, which it often repeats in the mornings and evenings when gathered together. In the bare table land, the *Hurrial* generally retires to some secluded and jungly districts for the purpose of breeding, which it is said to do in holes in ravines. It sometimes picks an insect off the ground or off a flower or branch.

I have often seen this bird collect towards sunset in small parties on a road, and roll themselves about in the sand and dust, evidently with great pleasure.

Length to end of lateral tail feather $7\frac{1}{2}$; of wing $3\frac{7}{8}$ ths; tail $2\frac{1}{8}$ ths; two central tail feathers beyond $2\frac{1}{4}$; bill to front $1\frac{2}{5}$ ths.

240.—*M. Philippinus*, Auct. P. E. 57.—*Blue-tailed bee-eater*.

This bird, by no means common any where, is rarely met with in the Carnatic or table land, and only, I think, in the cold weather. It prefers a well wooded country, and I have seen it in Goomsoor in open parts of the jungle, and in the west coast occasionally in similar situations. It is almost always found in small parties seated on the tops of high trees, frequently among wet paddy-fields, and in general perhaps, making a much longer circuit than the last one, capturing several insects before returning to its perch. I have on one or two occasions seen it perched on a low palisade overhanging some water, and every now and then picking an insect off the surface of the water. I once saw an immense flock of them at Caroor, in the Carnatic (Coimbatore district) and in the beginning of March. There were many thousands of them perched on the lofty trees lining the road there, which occa-

sionally sallied forth for half an hour or so, making a great circuit before returning. These birds were most probably what had been spread over great part of that country, now collected to migrate into a more wooded region, during the approaching hot season when insect life is scarce.

Like the last, this has a loud and pleasing sort of whistle, more full and mellow than that of its more common congener.

Length to end of lateral tail feathers $9\frac{1}{2}$ inches; two central feathers beyond 2 inches; of wing $5\frac{1}{4}$; tail $3\frac{3}{4}$; bill to front $1\frac{1}{2}$.

241.—*M. quinticolor*, Vieillot, Encyl. Method. p. 393.—*Chestnut-headed bee-eater*.

I have only seen this bird on two occasions, once at the foot of the Coonoor pass in dense jungle, and again in an open forest on the Malabar Coast. It pursued insects from a fixed perch, returning after having captured one—was generally seated on a low bough, solitary, or two or three together. Irides fine red.

Length 9 inches; wing $4\frac{3}{10}$ ths; tail $3\frac{1}{4}$; bill to front $1\frac{3}{10}$ ths.

There is no elongation of the central tail feathers.

242.—*M. ? cyano-gularis*.—New species?—*Nyctiornis ?*.—*Blue-throated bee-eater*.

Descr.—A broad blue stripe extends from the base of the lower mandible down the throat and breast; upper part of the body, the head and tail, green, with a bluish tinge; belly of a buff colour, with dashes of green; eye, bright scarlet; bill and feet brownish black.

Length 14 inches; wing $5\frac{1}{2}$; tail 6; tarsus $\frac{1}{2}$ inch; bill $1\frac{3}{4}$.

I have two or three times observed this fine species of *bee-eater* at the foot of the Coonoor pass of the Neilgherries, in dense and lofty jungle. One time it was alone, the other times I observed it in pairs, perching on the tops of the highest trees, and flying before you from tree to tree. I was not fortunate enough to obtain a specimen, owing to their extreme wariness, but was kindly allowed to inspect and examine a specimen procured by M. Delessert. I suspect from the shortness of its wing that it is a *Nyctiornis* of Swainson.

GENUS CORACIAS, L.—*Roller*.

243.—*C. Indica*, L.—*C. Bengalensis*, Steph.—*Cor. nævia*, Vieill. and Less., Edwards pl. 326.—*Subzuk* and *Neelkond*, H., both words having reference to its colours.—*Tās*, Mahr. from its call.—*Indian Roller*, generally called *Jay* by Europeans.

It has a very loud harsh rattling scream, generally uttered during flight. Is said to breed like the other *King-fishers* in holes on the banks of rivers. It is readily taken with a bait of a mole-cricket. Irides light brown; bill and legs red.

Length $11\frac{1}{2}$ inches; wing $4\frac{2}{5}$ ths; tail $3\frac{1}{2}$; bill to front $2\frac{2}{5}$ ths; at gape $2\frac{1}{5}$ ths.

245.—*H. capensis*.—*Alc. capensis*, Auct.—*Malak-Poymah*, Mal. i. e. *Jungle King-fisher*.—*Large Jungle King-fisher*.

This large *King-fisher* is found wherever there is lofty jungle. I have seen it in Goomsoor, Malabar, and Travancore; also once lately in a well wooded brook in the northern part of the table land. It frequents brooks, rivers, and tanks, and, in the instances I have observed, always feeds on fish. Irides light brown; bill deep lake red; feet vermilion red.

Length 14 to 16 inches; wing $5\frac{2}{5}$ ths; tail 4; bill to front 3 inches to $3\frac{3}{5}$; at gape $3\frac{2}{5}$ ths to 4 inches.

SUB-GENUS CEYX.

246.—*C. microsorna*, Burton, Proc. Zool. Soc. 1837?—*C. purpureus*, Less.?—*C. tridactyla*, Sykes' Catalogue.—*Three-toed King-fisher*.

Not having obtained this little *King-fisher*, I have given the above names as synonymes with doubt. I have once or twice only observed this rare bird frequenting a tank in the northern part of the Deccan.

GENUS ALCEDO.

SUB-GENUS ALCEDO.

247.—*A. Bengalensis*, Gmel., Edw. pl. 11.—*Chota Kilkila*, H.

This species, so nearly allied to the European one, is common over all the peninsula, frequenting chiefly brooks and rivers, and feeding on small fish, and various aquatic insects. I possess a variety in which there is a good deal of white on the head, back of neck and back. In this one too the bill is entirely black. I may also remark that in some the shade of the plumage is bluish green, in others of a pure blue. Irides dark brown; bill black above; lower mandible orange; feet orange.

Length 7 inches; bill to front $1\frac{4}{5}$ ths.

SUB-GENUS ISPIDA, Sw.

248.—*I. rudis*.—*Al. rudis*, Auct.—*Koreyala Kilkila*, H.—*Black and white King-fisher*.

Common over all India, frequenting brooks, rivers and tanks. Unlike the other *King-fishers* which watch for their prey from a fixed station, and then dart down obliquely on it, the *spotted King-fisher* searches for its prey on the wing, hovering over a piece of water like some of the *Terns*, and then darting down perpendicularly on it. Irides hazel brown; bill and legs black.

Length 11 to 11½ inches; wing 5½; tail 2½; bill to front $2\frac{3}{10}$ ths; at gape $2\frac{8}{10}$ ths.

FAMILY TROGONIDÆ.

GENUS TROGON, L.

SUB-GENUS HARPACTES, Sw.

249.—*H. Malabaricus*, Gould's Monograph?—*Trog. fasciatus*, Lath.—*Tro. Kasumba*, Raffles.—*Tr. Condea*, Temm. P. C.—*Koofnee Chooree*, H. of some shikarees.—*Kurna*, Mahr.—*Kakerne hukki*, Can.

This very richly plumaged *Trogon* is of rare occurrence in Southern India, and I have only found it in the densest portions of lofty jungle in Malabar and the Wynaad. It is, however, enumerated in Mr. Elliot's Catalogue. It is generally seen seated motionless on the branch of a tree, occasionally flying off to capture an insect, and sometimes, though rarely, returning to the same perch, generally taking up a new position, and wandering much about from tree to tree. I almost always observed it solitary—occasionally in pairs, and on one occasion four or five were seen together. In the stomach I have always found fragments of large coleopterous insects. The Hindoostanee name *Koofnee Chooree*, is given (says Mr. Elliot) "from its sitting with its head sunk in the shoulders, as if it had no neck, or as if dressed in a faqueer's '*koofnee*.' " Irides deep brown; bill and naked skin of fine deep cobalt blue; legs light blue.

Length 12 inches; of which the tail is above 6; bill straight to gape 1 inch.

The female differs from the male in wanting the black head and neck, which are of a light greenish brown. The belly is ochreous instead of

red, and the wing coverts are light ochreous brown, finely streaked with black, instead of black and white.

FAMILY CAPRIMULGIDÆ.—*Night-jars.*

GENUS CAPRIMULGUS, L.

SUB-GENUS CAPRIMULGUS, Sw.

Chippuk, H. vulgo *Dubchooree* or *Dubhuk*—also *Undhe-chooree*, names given from its habit of squatting.

The species of this genus so much resemble one another that it is almost impossible to make them out from description alone, and I feel uncertain whether I am referring my specimens to their proper places. Four species have been described as inhabitants of the continent of India. I also possess what I consider four distinct species, and shall in the proper place describe the most essential points of difference between these four Indian *Night-hawks*, without reference to any others of the genus.

250.—*C. monticolus*, Frankl. Cat.

The only specimen of this species which I procured was immediately below the Ajuntah ghaut, in the low land of Candeish, so that the name of '*monticolus*' appears inappropriate to its habits in this part of the country, whatever they may be in Bengal. It differs remarkably from the other Indian *Caprimulgi* by the two external feathers of the tail being entirely white, tipped with mottled brown. The white marks in the four external quill feathers also are much larger than in any of the others.

Length of my specimen 10 inches; of wing which reaches to the end of the tail 8; tail $4\frac{1}{2}$; tarsus $\frac{7}{10}$ ths.

251.—*C. Indicus*, Lath. ?—New species ?—*Neilgherry night-jar.*

I have temporarily placed this bird under the old name of *C. Indicus* of Latham, chiefly from the fact of its being feathered to the toes, as the *C. Indicus* is represented in the figure in Gray and Hardwicke's *Illustrations of Indian Zoology*. It differs, however, from the description and figure of that bird in having much less rufous tint, and being of a darker shade altogether, both above and beneath. This may depend

however, partly on age. I shall here give a brief description—plumage generally of a light cinereous, very much mottled with black and dusky, and in parts tinged with light fawn and cream colour; ears black, edged with light rufous; line below the ears extending along the gape, and throat spot, white. White marks on the four quills small. All the tail feathers, except the two centre ones, tipped with white, with a dusky margin. Wing not reaching to the end of tail which is long.

Length $11\frac{1}{2}$ inches; wing $7\frac{1}{2}$; tail $5\frac{6}{10}$ ths; tarsus, feathered to the toes, not quite $\frac{6}{10}$ ths.

Besides the differences above mentioned, the inner surface of the quills are represented in Hardwicke's drawing as being spotted on both sides with rufous white. In my specimen the external quill alone is spotted on the outer web only, and with very minute whitish marks.

I have only seen this *night-jar* on the summit of the Neilgherries, frequenting the stony hills, and during the day taking refuge in the woods.

252.—*C. Asiaticus*, Lath. ?—*Small night-jar*.

The species which I shall for the present consider as the *C. Asiaticus* of Latham, is the smallest and most generally spread of all the Indian *night-jars*. I have found it in the Carnatic, west coast and Northern Circars, but not yet seen it on the table land, where, however, it was obtained by Col. Sykes. My specimens differ from the figure in Hardwicke's Illustrations, in wanting the black ear and sides of throat, but appears to resemble it much in other respects.

Length $8\frac{3}{4}$; of wing $5\frac{1}{2}$; tail $4\frac{1}{4}$; tarsus $\frac{7}{10}$ ths.

253.—*C. Mahrattensis*, Sykes ?—New Species ?—*C. Asiaticus*.—var. ?

This *night-jar*, which for the present I place under Col. Sykes' new species with doubt, very much resembles the last in the general distribution of the colours, but it is of a lighter tint throughout, and the rufous of the last is replaced in parts by a lighter or cream coloured hue. It much resembles the drawing of *C. Asiaticus* in Gray and Hardwicke, with which I suspect it is identical. It differs from Col. Sykes' description of his *Mahrattensis*, in having a sub-rufous or fawn coloured collar on the nape of the neck, and in the size and length of the tail, as given by Sykes, whose species, if these are permanent differences, is probably a different, though nearly allied bird, as it is stated by Sykes to have the two external tail feathers, only, tipped with white, like these two last ones, which after all I suspect may be perhaps but mere varieties, this one differing chiefly in size, and the lightness of



its plumage. In this case, however, there will still remain a fourth species, viz. Col. Sykes' '*Mahrattensis*.'

My specimens were found in the northern part of table land near Jaulnah. Length rather more than $9\frac{1}{2}$; wing 6; tail $4\frac{1}{2}$; tarsus nearly $\frac{8}{10}$ lns.

All the species of the *night hawk* I observed have the habit, when roused in the day time, of flying a short distance, and then alighting on the ground and squatting close, not moving from the spot where they have first alighted. The note of the common one (No. 252), as well as of the Neilgherry species, both resemble the sound of a stone scudding over ice, or, as is well represented by Mr. Elliot, sound like the word *tyook, tyook, tyook*. Mr. Elliot in his notes states that he once found the eggs of the common species (two in number) placed on the ground without any nest. They were pink, spotted with brown.

FAMILY HIRUNDINIDÆ.—*Swallows*.

GENUS CYPSELUS, L.

SUB-GENUS CYPSELUS, Sw.

254.—*C. Alpinus*, Temm.—*H. Melba*, Auct.—*Large mountain Swift*.

As far as I can judge from descriptions, my bird is the same as the European one. I first observed it on the road between Madura and Palamcottah, when an innumerable flock passed over camp from the range of eastern ghauts, travelling towards the east coast. It was almost mid-day in the month of August. They kept a steady easterly direction. I afterwards saw in Travancore single birds, flying about at an immense height with great rapidity. I also saw them on the top of the Neilgherries, towards the edges of the hills, and also at Madura, flying in small parties every evening, just before sun-set, towards the east coast, apparently from the hills in the neighbourhood, as I did not see them during the day time. Its flight is amazingly rapid. Length 9 inches; wings beyond 2 inches; from flexure $8\frac{1}{2}$; tail 3; bill straight to gape 1 inch.

255.—*C. affinis*, Hardwicke, Gray and Hardw. Ill. Ind. Zool.—*Ababeel*, H.—*White-rumped Swift*.

This species, though of general distribution throughout the peninsula, yet at the same time is so partially distributed as to have caused

Col. Sykes to say in his Catalogue "so rare in the Deccan that I have only obtained 2 specimens." It is found in all districts of India, but in these is often confined to a small tract in the neighbourhood of some few large pagodas, large old choultries, and other similar buildings. In the Carnatic it is common at Madras, at the rocky fort of Trichinopoly, and very numerous at the large pagodas of Madura, among which their nests are thickly crowded. On the west coast I saw it on several occasions, chiefly among rocky hills, but only observed it twice or thrice throughout the whole length of the table land from the Tapoor pass to Jaulnah, and then but few in number. At this latter place, however, it is very common, breeding in some old choultries and other buildings. It seldom, I think, takes a very long range from its breeding places. It builds its nest in company always, often thickly crowded together, placing them in corners and crevices of old buildings, and forming them of clay, profusely mixed with straw, grass, feathers and other soft substances, of which they appear externally to be entirely composed. During the night they roost in their nests, four or five often occupying the same one, as I observed in the celebrated choultry at Ajuntah.

The eye of this *Swift* is deeply seated, the eyebrow overarches it, and a ridge continuous with the eyebrow extends along the gape.

Length about $5\frac{1}{2}$; wing beyond $1\frac{1}{2}$; from flexure 5; tail $1\frac{6}{8}$ ths.

256.—*C. palmarum*, Hardw., Gray and Hardw. Ill. I. Zool.—*Balasian Swift*, Lath.

This little species is common in all the districts of India, except on the bare table land, where it is rare. As its name implies, it frequents groves of palms, especially the palmyra (*Borassus flabelliformis*), and does not in general fly to any distance from them. It is very abundant in the Carnatic. According to Hardwicke it builds its nest on the leaf of the palm.

Length $5\frac{1}{2}$; tail $2\frac{1}{2}$; wing $4\frac{1}{4}$. This bird is said in some works to be nocturnal. I need hardly add that such is not the case.

GENUS MACROPTERYX, Sw.—*Swallow-tailed Swift*.

257.—*M. longipennis*.—*C. longipennis*, Temm. P. C. pl. 83.—*Hir. Klecho*, Horsf.—*Crested long-winged Swift*.

This very elegant *Swift* is only found in the South of India, in high forest jungle in the neighbourhood of hills. I have seen it in Goomsoor, at the foot of the Neilgherry hills, and in various parts of the



jungle of the western coast. It frequently perches on bare and leafless trees. While on the wing it has a somewhat loud parrot-like cry, very different from that of the other species.

Irides deep brown; bill black; legs bluish black; soles of feet reddish white. Length about 10 inches; wings 6; tail 5; $1\frac{1}{4}$ inch longer than the wings.

The female differs from the male in having black ears instead of rufous, and in having a white streak along the gape. The elegant frontal crest of this species is frequently raised when the bird is sitting.

GENUS HIRUNDO, L.—Swallow.

258.—*H. Javan*, Sykes.—*H. Javanica*, Lath.?—Common Swallow.

This is perhaps the most generally spread, and abundant of the Indian Swallows, being found in all parts of the country, frequenting both the neighbourhood of water, and open plains and gardens. It appears to differ but very slightly from the European swallow. I do not know if it breeds in this country, but think not; and it certainly disappears from some places during the hot season and monsoon. If it does not breed in the North of India, it probably spreads over the north of the Asiatic continent.

Length $7\frac{1}{4}$; wing $4\frac{3}{4}$; tail beyond $1\frac{4}{10}$ ths; from base 4.

259.—*H. Erythropygia*, Sykes.—Red-rumped Swallow.

This Swallow in general, prefers the proximity of jungles. I saw it in Goomsoor, in the jungles round the Neilgherries (and also on the summit of the hills), in various other parts of the west coast, and in the Carnatic, at the Tapoor pass. In the northern part of the table land, however, I have seen it occasionally in the cold weather only, both in the neighbourhood of water and on dry open plains. It often is seen in the jungles it frequents, seated in great numbers on a tree. Mr. Elliot says of this species "flies after insects, and when its mouth is full sits on a tree to devour them." This bird varies a good deal in size. My specimens vary from 6 to $7\frac{1}{2}$ inches long, of one of the latter the wing is $4\frac{1}{2}$; and tail nearly 4.

260.—*H. filifera*, Stephens.—*H. filicaudata*, Frankl. Cat.—Leishra, H.—Wire-tailed Swallow.

This, by far the most elegant of its genus, is only found towards the more southern portion of the peninsula, about water. In the more

northern parts, however, it is more abundant, and generally spread, frequenting not only the neighbourhood of water, but also fields, gardens and open plains. It is found in small parties of 4, 6 or more. It breeds in holes of old walls and buildings, generally in the neighbourhood of water, also in wells and bowries, forming a small mud nest much open at the top. Its long tail feathers are only observable at a few yards distance, and in consequence of this, nine-tenths of Europeans here are unaware of its existence. It occasionally perches on trees.

Length to end of true tail $4\frac{1}{2}$ to $4\frac{3}{4}$; of wings ($1\frac{1}{2}$ inch beyond tail) $4\frac{6}{10}$ ths; tail $1\frac{1}{2}$; long thread-like feathers beyond tail 5 inches; and more even.

261.—*H. concolor*, Sykes.—*Small black Swallow*.

I have never observed this plain coloured *Swallow* in the Carnatic, northern division, or west coast, and only towards the more northern portion of the Deccan. It is by no means numerous here—is solitary, frequents tanks and rivers, and also gardens, fields and villages. It breeds in the caves of houses, in high walls, and other buildings. Length to end of tail $4\frac{6}{10}$ ths; of wings 4; tail 2.

262.—*H. Unicolor*.—New species.—*Hill Swallow*.

Descr.—Entirely of a glossy cinereous, or mouse brown; darkest on head, wings and tail, and with a tinge of green, and palest beneath.

Length $4\frac{3}{4}$; of wing $4\frac{1}{2}$; beyond the tail 1 inch; tail 2; slightly forked and with the feathers very broad. The bill of this *Swallow* is much smaller than that of any of the Indian ones, and is also much hooked. It most closely resembles the *Cyp. palmarum* in colour. Tarsus $\frac{3\frac{1}{2}}{10}$ th; feet very small.

I have only found this remarkable species on the Coonoor pass of the Neilgherries, and about the edges of the hills. It flies in large flocks, and with very great speed.

263.—*H. Sinensis*, Gray and Hard. Ill. I. Zool. ?.—New species ?—*River Martin* of India.

I know not if the little *Martin* I possess, be referable to the species above named or not, though I think it is probably distinct. I have only found it on one or two occasions in small parties, frequenting rivers, and breeding in holes in the river banks, during the month of December. I add a brief description.

Above of a light brown colour, lightest on the rump; wings and tail dark brown; chin, throat and breast, pale brown; belly, vent and under tail coverts, white.

Length $4\frac{1}{4}$ inches; wing $3\frac{1}{2}$; tail $1\frac{5}{10}$ ths; wings reach $\frac{1}{2}$ an inch beyond tail, which is very slightly forked; tarsus $\frac{4}{10}$ ths; bill to front $\frac{3}{10}$ ths.

264.—*H. riparia*, L?—New species?

This *Swallow* I venture to place (though with hesitation) under the European species, as I see it is enumerated in Franklin's Catalogue. It differs from the last named species, chiefly in its larger size, lighter coloured wings and tail, whitish throat, and in the rump being of the same shade of colour as the back.

Length $4\frac{3}{4}$; wing 4; tail 2; slightly forked; tarsus hardly $\frac{4}{10}$ ths; feathered on the back down to the hind toe.

I have hitherto only seen this species on one or two occasions in the neighbourhood of Jaulnah. It was on both occasions single, but flying in company with other swallows (*H. Jewan* and *H. filifera*) in the close neighbourhood of water.

II.—*Account of a Carboniferous Stratum at Baypoor near Calicut, Malabar Coast.*—By Lieut. T. J. NEWBOLD, 23d Light Infantry.

In consequence of having observed some carbonaceous bits of clay in the bed of the river at Baypoor, a sea port town about 6 miles south from Calicut on the Malabar coast, in lat. north $10^{\circ} 11'$, and long. east $75^{\circ} 53'$, I took a canoe and proceeded up the river in order to examine the section of the strata, its northern bank afforded. It presented steep cliffs, varying from 20 to 40 feet in height, which, near the mouth of the river immediately below the traveller's bungalow, consisted of a gritty laterite; that further up the river passes into a horizontally stratified loose grit or sandstone; this often becomes compact and variegated with red and yellow bands. Beds of an ochreous yellow earth tend to loosen its structure, near which it assumes a friable, earthy, character.

Not far from the bungalow, underlying these beds at the foot of the cliffs, near the river bed, and washed by the tide at high water is a seam or stratum of carbonaceous shale, passing into a black clay from

the saline moisture to which it is continually exposed, and imbedding carbonized branches, leaves and trunks of trees. This bed varies from a few inches to five feet in thickness, dipping 4° towards the north-east, and can be traced about half a mile in an easterly direction up the northern bank of the river. It is intersected by deep, nearly vertical fissures, which are crossed in various directions by others more superficial. Its structure is obscurely laminar, and the more earthy portions of it glitter with minute micaceous particles. Other portions seem to consist wholly of carbonized woody matter, and have a tough elastic feel under the hammer. Its colour varies from a greenish black to a jet black. In two situations it imbedded numerous small shells, some of which had been reduced to fragments, and differing from the shells at present found in the river. The identification of these shells would probably afford an insight into the age of the laterite hitherto a desideratum in Indian geology. Should we feel disposed to refer the age of this carbonaceous deposit to that of the coal measures of Europe, the laterite here might be classed with the new red sandstone. The black shale and clay is highly impregnated with sulphate of alumina, and is somewhat analogous to the aluminiferous shale of the coal measures; and, like it, as before remarked, contains micaceous spangles disseminated. The surface and sides of the fissures are frequently coated with a yellowish efflorescence consisting chiefly of sulphur, iron and alumina: the two former of which appear to be in process of combination into the pyrites, usually seen in coal, rather than the result of decomposition from pyrites. The whole has a distinctly sulphureous odour. The carbonized branches, leaves and trunks of trees lay in a horizontal position in the black shale; from which, in consequence of their weathering less, they often projected where washed by the tide. The external longitudinal fibres and annular concentric delineations of some exogenous trunks were perfectly distinct. Some fragments were brown, heavy, tough, and woody; others brittle, with a brilliant fracture resembling a jet, light and bituminous; on some the thin bark was perfectly distinct, and exhibited in a beautiful manner the different stages of the carbonization of wood. Many fragments were penetrated with water, holding iron in solution, which had left on the surface a glittering reddish brown enduit.

The whole appearance of these strata, their situation and the horizontal position of the trees, leaves, and plants embedded in them, fully bear out the theory of the formation of our coal-fields and wealdens (viz. that they are the successive deposits of drifted trees, plants, clay and sand on the bed of a river or estuary) against the objections of a late

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I.—*Catalogue of the Birds of the Peninsula of India, arranged according to the modern system of Classification; with brief Notes on their Habits and Geographical Distribution, and description of new, doubtful and imperfectly described Species.*—By T. C. JERDON, Assistant Surgeon, 2d Madras Light Cavalry.

(Continued from No. 27, page 239.)

ORD. III.—RASORES, Ill. Swains.—*Game Birds and Pigeons.*

FAMILY PAVONIDÆ.

GENUS PAVO, L.—*Peacock.*

265.—*P. cristatus*, L.—*Mohr*, H. and Mah.—*Common Peafowl.*

The *Peafowl* abounds in most of the wooded districts of India, and also in woody nullahs, and low jungle in various parts of the country. It breeds most usually towards the end of the monsoon.

GENUS GALLUS, Briss.

266.—*G. Sonneratii*, Temm.—*Jungle Moorgh*, H.—*Common Jungle Fowl*.

This *Jungle Fowl* is tolerably abundant in most of the lofty jungles of the South of India, and is also found in the lower jungle in the Carnatic and eastern range of ghauts. It is not, however, met with in the Northern Circars. It is very partial to bamboo jungle. I once found the eggs of this fowl, seven in number, on the ground in dense jungle at the foot of the Neilgherries. They were of a light pinkish cream colour.

267.—*G. Bankiva*, Temm.—*Red Jungle Fowl*.

This species, hardly distinguishable in appearance from many of the domestic varieties, and unquestionably the origin of most of the varieties of our common fowls, is the only jungle fowl found in the woods of the eastern ghauts in the Northern Division, and is very abundant in some parts, as in Goomsoor. I do not know exactly how far south this species extends, but know that it is found as low as Cumnum, N. L. 16°. The crow of this bird is much more distinct and marked than that of the last one, which has only a broken and very indistinct call.

FAMILY TETRAONIDÆ.

GENUS ORTYGIS, Ill. Swains.—*Hemipodius*, Temm.—*Three-toed Quail*.

268.—*O. pugnax*.—*Hemip. pugnax*., Temm. P. C. 60.2.—*Tetrao nigricollis* and *Madagascariensis* of the older authors?—*Gooloo*, H. in the South of India.—*Toorah* of others.—*Black throated three-toed Quail*.

This pretty species is tolerably common in most of the well cultivated parts of India, frequenting low jungle, and also fields of pulse, chillee, &c. It is sometimes found solitary, often in pairs, but also in bevs of 5, 6 or 7. It feeds on various grains and seeds, also much upon insects, especially white ants, and the larvæ of grasshoppers, &c.

Colonel Sykes and M. Temminck assert the identity of the plumage of both sexes, and though I did not examine them when I shot several in company, they were always clothed alike.



This bird is often caught and caged by the Mussulmauns of Southern India. It has a peculiarly loud purring call, and this is made use of to ensnare others in the following manner. The female is taken into the jungle in a small cage, chiefly during the breeding season, which is said to be (in the Carnatic) about the end of the monsoon. The cage has a small plank in front of the bars, over which an arched cover is made to fall by the snapping of some thread, placed between the bars. It is then placed on the ground in a low bush and partially concealed by leaves, &c. The bird within begins its loud purring, and any of its kind in the neighbourhood run rapidly to the spot, and commence pecking at the bars of the cage—this soon breaks the thread, and the spring cover falls, ringing a small bell at the same time, by which the owner, who remains concealed, is warned of a capture—15 or 20 are occasionally caught in this way in a single day.

Irides light yellow; bill and legs dull bluish. Length $6\frac{1}{2}$ inches; wing nearly $3\frac{1}{2}$; tarsus $\frac{8}{10}$ ths; bill to front $\frac{1}{2}$ inch; weight about 2 oz. 1 dr.

268, *Bis.*—*O. Taigoor*, Sykes; figured Trans. Zool. Soc. vol. 2.

From the few opportunities I have had of observing this bird, I am inclined to agree with Colonel Sykes, and place it as a distinct species. I have only procured it solitary, in long grass on the more open spaces of the forests of the Western Coast. Bill bluish, with a tinge of yellow beneath. Irides pale yellow. Length 6 to $6\frac{1}{4}$ inches; wing 3; tarsus fully $\frac{8}{10}$ ths; bill rather shorter and less high than in the preceding species.

269.—*O. Dussumierii*.—*Hemip. Dussumierii*, Temm. P. C.—*Toorah*, H.—*Smallest three-toed Quail*.—*Button Quail* of some Europeans.

This very small bird, probably one of the least of the order, is always found solitary, generally in long grass, sometimes in the fields of pulse. It is flushed with difficulty, and, as Colonel Sykes remarks, its flight is abrupt and short. Irides pale yellow; bill dusky; legs whitish flesh-coloured. Length $5\frac{1}{2}$ inches; wing nearly 3; tarsus $\frac{7}{10}$ ths; bill front $\frac{4}{10}$ ths.

GEN. TETRAO.

SUB-GEN. PTEROCLES, Temm.—*Rock*, or *Whistling Grouse*.

270.—*P. exustus*, Temm. P. C.—354 and 360.—*Bur-Teetur*, H.—*Common Whistling Grouse*.—*Rock Pigeon* of Europeans.

This is a very common and abundant bird in most parts of the open country. It is not found in wooded districts. It associates in parties

varying in number from 4 or 5 to 50, or even more, and frequents the open stony plains, and bare fields. It flies swiftly, and generally at a considerable height, and as Colonel Sykes has remarked "has a most peculiar and piercing cry which often announces its approach ere it is observed." It feeds chiefly on a very hard kind of seed. When approached it often squats close, and it is very difficult to distinguish it in some pieces of ground. After its morning meal it always goes to some neighbouring water to drink. Its flesh, which is brown and white, is remarkably hard and tough, and will keep longer than that of any other game bird; this hardness causes it to be less appreciated than it deserves to be, for, when kept a sufficient time and well dressed, it has an excellent flavour, inferior to very few of the Indian game birds.

I have found its eggs several times lately in the mouths of January and February, placed on the ground without any nest, 3 in number and of light olive greenish blue, speckled with olive brown and dusky, of a very long shape, and equally rounded at both ends.

Length about 13 or 14 inches; wing 7; tail (centre feather) 5; weight of male about 9 oz.: bill, legs, and naked skin round eye, cinereous.

271.—*P. quadricinctus*, Temm.—*Tetrao Indicus* of Gmelin.—*Hunderdyree*, H.—*Painted Whistling Grouse* or *Rock pigeon*.

This richly plumaged *rock grouse*, is much more rare than the last, and unlike it is neither gregarious nor found in the open plains. It lives in pairs, and frequents bushy plains, and stony and jungly hills. It flies but a short distance, and its cry, which is of the same character as that of its congener, though much less loud, and deeper, is never heard except when the birds are first flushed.

I have lately got the eggs of this species, also, very similar to the other, but rather smaller, and with the spots fewer and larger.

Irides deep brown; bill red; naked skin round eye, lemon yellow with a green tinge; feet ochre yellow; claws reddish. Length 10 inches; wing $7\frac{1}{2}$; tail 3; weight of cock bird about 7 oz.

GEN. PERDIX.—*Partridge*.

272.—*P. picta*, Jard. and Selby, Ill. Ornith.—*P. Hepburnii*, Gray and Hardw., Ill. Ind. Zool.—*Kala Teetur*, H.—*Painted Partridge*.

The painted *Partridge* is not found in the Carnatic, nor in the Malabar Coast, and I believe not in the more southern portion of the table land. It begins to be met with first in any quantity about N. lat. 15° , in the neighbourhood of Bellary, and becomes more numerous as you advance towards the north. It frequents both low bushy jungle

and grain-fields, especially those of wheat, and also long grass by the sides of rivers, water-courses and elsewhere. The cock bird has a most peculiar crowing note, which though not very loud, is yet heard a long way off. It may be heard morning and evening uttering this croak, generally seen to do so whilst perched on a bush. Mr. Elliot says well on this subject—"Its peculiar cry may be expressed by the syllables *Chē-kē-kērrēy*, pronounced very gutturally. The poults chirrup like crickets." The *Painted Partridge* is not found in coveys, generally single or in pairs. It breeds during the monsoon, lays 6 or 7 eggs of a smoky bluish white colour, of an oval form, much depressed at the thick end. It is not held in very high esteem for the table. Bill blackish; irides brown; legs yellowish red. Length about 12 inches; tarsus $1\frac{7}{10}$ ths; weight of male about 11 oz.

SUB GENUS FRANCOLINUS.—*Spurred Partridges*.

273.—*F. Ponticerianus*,—*Perd. Orientalis*, Gray and Hardw., Ill. Ind. Zool.—*Teetur*, H.—*Common Partridge of India*—*Scavenger Partridge* of some.

The common *Partridge* is found in every part of the peninsula, both in bushy ground, and more especially in cultivated lands, fields and gardens, delighting in the hedge rows. It perches freely even during the day. The cock bird has a most peculiarly loud and piercing call. It is often caught and tamed by the natives, and becomes most familiar, following its owner like a dog and uttering its loud call, when whistled or spoken to. It is also much used for fighting, which it does with great courage and spirit. Its flesh is held in no esteem by Europeans. It breeds towards the end of the monsoon, and in the cold weather. An opinion prevails among the natives, that the partridge lives for seven years, and is then changed into a *Cobra di capella*!

274.—*F. Spadiceus*.—*Perd. Spadiceus*, Lath.—*Spur-fowl* of Europeans in India.

Unlike the last species, the *spur-fowl* is only found in the denser jungles, as well as of the Eastern as of the Western Coast, and generally along with the *Jungle fowl*. It is found in the low brushwood of the lofty forests, and when flushed, as it is with difficulty, frequently perches on the bough of some lofty tree. It is generally found in pairs, and feeds on various seeds and insects. I found the craws of some crammed with insects alone, among which various species of *Cimices* were the most predominant. Its flesh is excellent and of very high flavour. It is found on the top of the Neilgherries in the dense woods there. The

female has been well described by Colonel Sykes. The natives generally consider this bird as more allied to the *jungle fowls* than to the partridges, and it is said to run with its tail elevated.

Bill, naked skin round eye, and legs red. Length 14-15 inches; of which the tail is about 5.

SUB-GENUS COTURNIX, Briss.—Quails.

275.—*C. Dactylisonans*.—*Ghaghus*, H.—*Large grey Quail* or *Deccany Quail*.

The quail of Europe is by no means common in most parts of the peninsula, and certainly appears in greatest abundance during the cold weather, though according to Sykes and others, it remains and breeds here during the monsoon. It is found generally in long grass by the sides of rivers, tanks, and nullahs, or among the grain-fields, and generally in pairs.

Length $7\frac{1}{2}$ to 8 inches. Average weight about $4\frac{1}{2}$ oz.; bill dusky brown; irides light brown; legs flesh-coloured.

276.—*C. Textilis*, Temm.—*Perd. Coromandelica*, Lath.—*P. olivacea*, Buch.—*Batteir*, H.—*Black breasted Quail*.—*Rain quail* of some.

This pretty little species is very common in most of the well cultivated districts of India, frequenting the fields in bevvies, and also patches of grass in various situations, and low jungle. It breeds during the monsoon; many natives consider it as the male of the last. Irides reddish brown; bill horny brown.

Length 6— $6\frac{1}{2}$ inches; weight about $2\frac{1}{2}$ oz.

277.—*C. argoondah*, Sykes.—*Perd. Cambayensis*, Auct. ?—*Lowah*, H.—*Rock Quail*—*Bush Quail* of some.

The common rock quail is exceedingly abundant in every part of India, frequenting bushy and stony ground, and also the neighbouring grain-fields in considerable bevvies. It is much used by the natives for fighting, which it does with great spirit and obstinacy.

Irides reddish brown; bill dusky blackish; legs red. Length 6— $6\frac{1}{2}$ inches.

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278. *C. pentah*, Sykes—*Perd. rubiginosa*, Valenc.—*Geerzah*, H.—*Forest quail*.

I fully agree with Col. Sykes in separating this species from the last, from my own observations, its different habitat, and the testimony of all the quail fanciers of Southern India, who will at once point out a

Geerzah among a lot of '*Lowahs*'. It is an inhabitant of all the forests of S. India, and also occasionally and more sparingly found in low jungles, and wooded nullahs in the Carnatic and other regions. It is found at all levels, from the neighbourhood of the sea to the summits of the lofty mountains of the Western Ghauts. The *Geerzah*, though also caught and used for fighting, is in less esteem than the *Lowah*. Irides brown; bill dusky; legs reddish yellow. Length $6\frac{1}{2}$ — $6\frac{3}{4}$ inches.

279.—*C. erythrorhyncha*, Sykes.—*Kohnce Lowah*, H.—*Red-billed Quail*.—*Black quail* of the Neilgherries.

This very handsomely plumaged quail is very abundant on the top of the Neilgherries, frequenting the low brushwood of the woods, and occasionally entering gardens. As it is mentioned by Colonel Sykes and also by Mr. Elliot, in his Catalogue, it is probably to be found in all the more elevated districts of the Western Ghauts.

Bill and legs fine red; irides brown. Length $6\frac{1}{2}$; weight about $2\frac{3}{4}$ oz.

280.—*C. Chinensis*.—*Perd. Chinensis*, Auct.

There is an accurate description of this species of quail in Mr. Elliot's notes, taken from a single specimen, shot by a gentleman near Belgaum in the Southern Mahratta Country.

FAM. STRUTHIONIDÆ.

GEN. OTIS, L.

281.—*O. nigriceps*, Vigors—Gould Cent. Him. Birds.—*O. Edwardsii*, Gray and Hardw., Ill. Ind. Zool.—*Tokdar*, H.—*Black-headed* or *Indian Bustard*.

This noble bird is found, I believe, over all the peninsula, except perhaps on the wooded regions of the Western Coast, but more numerous in some localities than in others. Wherever there are extensive plains, whether of long grass or cultivated, this bird is most abundant, more especially on the trap formation of the north-west part of the great table land. The *Bustard* is frequently seen alone, occasionally 2, 3 or 4 together, and often flocks of 20 or more are seen feeding in company. Its most favourite food is large locusts and grasshoppers, also the common black and red *mylabris*, various insects of the genus *buprestis*, *scarabæus* and others, caterpillars, centipedes, and even lizards. Mr. Elliot mentions a quail's egg entire having been found in the stomach of one. In

default of insect food, it eats various fruit, grains and seeds, especially the fruit of the *Ber* (*Zizyphus Jujuba*). Several small stones are generally found in the stomach, and I once found some large fragments of a brass bangle in one.

The *Bustard* breeds most generally about the end of the monsoon, and subsequent cold weather, the female laying one or two eggs; it, however, varies much in the time of breeding. The egg is of a dark olive colour, with obscure darker blotches. When feeding, it is generally wary and difficult to approach, but during the heat of the day it lies down either in the long grass, or in the shade of some bush, and is then often approached quite close. It usually takes a long flight when once raised, often several miles, and flies with a continued flapping of its wings, never sailing.

The *Bustard* has a loud hoarse call, by some compared to a bark or a bellow, this is rarely heard however, except when the bird is alarmed. It has, however, another cry, as I learn from Mr. Elliot's notes, which is probably the call to its mate. I extract Mr. Elliot's note on the subject. "October 12th, killed a large cock bustard. When first seen he was making a curious noise, like a person in pain moaning, which was heard at a considerable distance. I at first thought it proceeded from some one in distress, and rode towards the spot under that impression, until I saw the bustard. He was strutting about on some high ground, expanding his tail, ruffling his wings, and distending his neck and throat, making the feathers stand out like a ruff. I frequently afterwards heard the moaning, always at the same season."

The gular pouch of the cock bird can contain three quarts of water and more.

Length of male $4\frac{1}{2}$ feet; wing 30 inch; tail 13; tarsus $8\frac{1}{2}$; bill (front) 3; expansion of wings nearly 8 feet; weighs sometimes 25 or 26-lbs. The female is about a third less and measures about $3\frac{1}{2}$ feet in length.

282.—*O. aurita*, Lath., Jard. and Selby, Ill. Orn.—*O. fulva*, Sykes.—probably also *O. Indica*, Auct.—*Churz*, H.—*Tun-mor*, Mahr.—*Kunnowl*, Can.—*Florikin* and *Black Florikin*.

It is still a disputed point among naturalists and sportsmen whether the *black florikin* be a distinct species from the common one, or not—and the only two writers on Indian Ornithology who have observed the bird in its native haunts, viz. Major Franklin, and Colonel Sykes, have pronounced it to be a distinct species. From the synonymes I have adopted, it will be seen that I consider them identical, and from my own observations I have concluded that the *black florikin* is the cock bird, in its summer or breeding plumage only, Colonel Sykes having

accurately described its winter dress as being almost identical with that of the female. I may here state that there are two other opinions prevalent in India on this subject. One is that the *black florikin* is the young bird, and that he *changes* to the livery of the female; the other is that he is the adult cock bird, but that he does not change his plumage. The following are the chief reasons I have for considering the *black florikin* as the nuptial plumage of the common or *fulvous florikin*.

1st. All *black florikin* examined by me (and others, I believe,) have been males.

2d. The *black florikin* agrees *exactly* with the characters of the *male* of the *O. fulva*, as described by Sykes, in size, length of wing, and acumination of the quill feathers—the points of difference from the female.

3d. The time of the first appearance of the black plumage of the *florikin* corresponds with the era preceding the breeding season—and its disappearance also coincides with the termination of the breeding season; and I have seen specimens in all states of progressive change, from the female garb to that of the perfect *black florikin*, and again from this, their nuptial plumage, to the more sober livery of the rest of the year.

4th. No males in the grey or fulvous plumage, in which at least some black feathers were not visible, were ever shot by me during the breeding or summer season, i. e. from June to November.

5th. I may cite the evidence of Lieutenant Foljambes, in a brief paper in the Journal of the Asiatic Society of Bengal, in which he states it as his belief 'that they are the same bird, but that the black one is only met with in Guzrat during the monsoon,' i. e. the breeding season.

Lastly—I may state that several successful sportsmen, to whom I have lately mentioned my opinion on this subject, fully agreed with me, and even the opinion of those who considered the black birds to be young ones, is, I think, to be added to the testimony in favour of the black being the breeding plumage of the male bird.

In the neighbourhood of Jaulnah, where my observations have been chiefly made, I have seen the male bird just commencing to assume the black plumage early in May, and I believe the majority of them have assumed the perfect black plumage by the beginning of August. By the middle of November most of them have, with the exception of a few stray feathers, occasionally re-assumed their more sober grey livery. I am perfectly aware that there are many occasional exceptions to this; dependent, however, I am convinced, chiefly on the well known great irregularity of the time of breeding, so common in hot countries, where the birds are not compelled, as they are in a cold country, to limit

their season of breeding to an odd month or two : and also partly on the fact hereafter mentioned of many pairs breeding, especially towards the south of the peninsula, after the great annual innuigration in October and November.

The most general time of breeding of the *florikin* about Jaulnah, is the months of August and September. Birds have, however, been flushed from their eggs as late as October. During this season the females are remarkably shy and wary, and flushed with difficulty, and during the whole monsoon, cock birds, either in a state of change, or in the perfect black plumage, are almost the only ones to be met with. I am informed by native sportsmen that the black bird is occasionally seen in company with the hen at this time, or walking round her whilst sitting on her eggs, yet I think it probable that the cock birds withdraw from the society of the hens soon after incubation has commenced.

Though a few couple remain in most parts of the country, for the whole year, and breed, yet the great body of them undoubtedly migrate to the peninsula at the beginning of the cold weather in October, and remain till March or April, when they emigrate for the purpose of breeding. As before mentioned, after their arrival, several couples undoubtedly breed, sometimes as late as December and January, especially in the Carnatic, the Northern Circars, and Mysore. I believe, however, that the great majority of them do not breed after their arrival in the south, and that such as do are probably the ones bred late in the south of the peninsula the previous year, and which were not sufficiently matured to do so along with the others, in the early monsoon season of Upper India. In the Carnatic, as about Trichinopoly, at the commencement of the season in October, a considerable number of those brought in by the native shikarees are black, chiefly, however, in a state of change from the perfect plumage—they leave this district in February.

I am informed that in the Nellore and Guntoor districts, both the most celebrated *florikin* grounds in Southern India, the *florikin* do not arrive in any numbers till November, and black birds are hardly ever met with. This, I may remark, is an additional proof in favour of my opinion. A few couple, most probably, remain even here, in the wilder and more sequestered parts, for I have heard of a black *florikin* being killed in the Tinnevely district in the month of August. In the Southern Mahratta Country, as I learn from Mr. Elliot's notes, the *florikin* arrive towards the end of September, and remain till April, except a few stray birds in a state of change that remain through the monsoon.

The *florikin* frequents long grass in preference to any other situation. It is sometimes met with in the grain-fields, also in fields of cotton and

dholl, and in the Carnatic so much in those of the grain called *wanagon*, as to be named the "*Wanagon Bird*."

It feeds chiefly in the morning, and is then easily raised, but during the heat of the day it lies very close, and is flushed with difficulty. It seldom flies far, but often runs a long way to escape being raised, especially on open ground. The chief food of the *florikin* is grasshoppers. I have also found blister beetles (*Mylabris*), scarabæi and other insects, and even occasionally centipedes and small lizards. I have sometimes, though rarely, heard it utter a kind of sharp *quirk* as it rose from the ground. It has also a kind of feeble plaintive chirp, or piping note when running. Its flesh is delicate, and of excellent flavour, and it is the most esteemed of the Indian game birds; and its pursuit is a favourite sport. From the open nature of the ground it frequents, it is well adapted for being hawked, and both the *Luggur* and *Shaheen* are often flown at it.

The egg is of a stunted thick ovoid form, very obtuse at the larger end, and of a dark olive colour.

Length of the male 18-19 inches; of wing 8; tail 4; tarsus hardly 4; bill front $1\frac{3}{10}$ ths; weight 16-18 oz.

Length of female $19\frac{1}{2}$ to 21 inches; of one $20\frac{1}{2}$; wing $9\frac{3}{4}$; tail nearly 5; tarsus $4\frac{1}{2}$; bill front $1\frac{1}{2}$; weight 20 to 24 oz.; bill dusky above, edges of upper, and all lower mandible, whitish. Irides pale yellowish; legs dirty whitish yellow.

FAMILY COLUMBIDÆ.—*Pigeons and Doves*.

GENUS PTILINOPUS, Swains.

283.—*P. Elphinstonii*, Sykes.—*Imperial Pigeon* of the Neilgherries.

I have hitherto only found this fine pigeon in the dense woods on the summit of the Neilgherries, in small parties, or single. It is a retired and wary bird. I found various fruits and small shells in its stomach. Irides ochre yellow. Length about 15 inches.

GENUS CARPOPHAGA, Selby.

284.—*C. cenea*.—*Col. cenea*, Auct.—*Pogonnah*, Mal.—*Imperial Green Pigeon*.

The *imperial pigeon* of Europeans on the West Coast is found in all the lofty forests of the West Coast, single or in small parties of 3 or 4. It feeds on various kinds of fruit, and has a single low plaintive note.

Irides and orbits, lake red; bill slaty, at base above red, at tip bluish white; legs lake red. Length 16 to 18 inches. I have never seen this bird with the knob on its bill as represented in books, nor have I heard of its ever being present.

285.—*C. cuprea*.—New species?—*Copper winged Imperial Pigeon*.

I possess a single specimen of a fine pigeon shot in the Wynaad by Captain Pope, of the Bombay army, to which, if it be a new species, the above name may be applied. It might be considered as the young of the last, but its large size, and the testimony of other sportsmen of a *copper winged pigeon* found in Coorg, lead me to suppose it distinct. I add a brief description. Head, neck, and beneath pale lilac grey or dun colour; chin white; back and wings brownish, with a faint coppery gloss; rump dark glossy cinereous; quills and tail dusky black, the latter tipped with cinereous; under tail coverts, yellowish white. Irides, orbits and feet red; bill red at base, cinereous at tip. Length 18 inches; wing $9\frac{1}{2}$; tail $6\frac{3}{4}$.

GENUS VINAGO, Cuvier.—*Green Pigeons*.

286.—*V. militaris*?—*Hurriala*, vulgo *Hurwa*, H.—*Common Green Pigeon*.

This, the largest of its genus found in the peninsula, is at the same time by far the most common and universally spread, frequenting not only jungles, but groves, gardens, and especially the fine avenues of old banian, and other trees that line many of the roads in the southern part of the peninsula. It associates in large flocks, feeding much on the fig of the banian, and various other fruit trees. When seated quietly they are very difficult to distinguish among the green leaves.

Many are often brought down at a single discharge even when only 1 or 2 were visible. The *green pigeon* has a high flavour, and is considered excellent eating. As there is some doubt about the descriptions of this bird, which is represented as having *red* legs, and as Gould has figured as one of the sexes of this, a totally distinct species not found in the peninsula, I here add a brief description.

Head and neck, blue grey; back of neck, yellowish olive, bordered by a narrow band of blue grey; chin and throat grey, tinged with green; back and wings olive green; shoulders bluish purple; breast and abdomen yellowish green, mixed with bright yellow towards the lower abdomen and vent; under tail coverts reddish cinnamon colour, edged with yellowish

white ; feathers of tarsus bright yellow ; thigh coverts green, edged with whitish ; tail entirely gray above ; beneath blackish, with a broad margin of bluish white ; feet saffron yellow ; irides fine smalt blue, with an exterior circle of carmine ; bill thick and strong, greenish white at base, bluish at the tip. Length 12 inches ; wing $7\frac{1}{2}$; tail 4.

In the young birds the under tail coverts are dusky green, edged with whitish, and this is the only material difference I have observed among numerous specimens from all parts of the country.

287.—*V. aromatica*, Auct.—*Marroon-backed green pigeon*.

I have only found this handsome green pigeon in small parties, in thick forest jungle in Malabar, and at the foot of the Neilgherries. One specimen differs somewhat from the others in having the face, forehead and chin yellow, the under tail coverts mottled with green and white, and in the bluish white tip of the lateral tail feathers being broader. This, I think, may be a young bird.

Bill and irides as in last : the former much more slender ; feet and legs lake red. Length about $10\frac{1}{2}$ inches ; wing nearly 6 ; tail 4.

288.—*V. affinis*.—New species ?—Young of last ?

Descr.—Forehead and head grey ; rest of plumage green ; yellowish on chin ; tail with centre feather green ; exterior cinerous, with a black band near tip ; under tail coverts barred with white and green ; bill, irides, and feet as in the last ; bill stronger. Length about $10\frac{1}{2}$; tail $3\frac{1}{2}$. This may be considered as the young of the last, which it resembles in size and form, but the absence of the rich marroon colour of back and wings, the fact of its being always found separate, and other circumstances, have induced me for the present to consider it as distinct. I have seen specimens of this pigeon in several collections made on the West Coast, but have only obtained it twice myself in forest jungle, and both times solitary.

289.—*V. bicincta*.—New species ?—*V. purpurea*, Auct., Brown Ill. Zool. ?—*V. vernans*, var., Less. *Traité*.—*Purple and orange breasted green pigeon*.

Descr.—Back of head and neck above blue grey ; forehead, top of head, face, chin, throat, belly and rest of the plumage above, green of different shades ; a broad band of orange or bright cinnamon yellow, on the breast, separated from the green of the throat by a light purple band ; lower belly and vent yellow ; some of the feathers streaked with green ; under tail coverts entirely cinnamon colour : tail above grey, with a central dark band, and edged lighter ; beneath almost black ; whitish at the tip ; edges of the

wing covers marked with yellow more broadly than in the other of this genus. Length about 10 inches; wing 6; tail rather more than 4; feet red; bill and irides as in others of the genus.

I have only seen this very prettily plumaged *green pigeon* in a tract of jungle near the sea coast, south of Tellicherry.

289, bis. *V. unicolor*.—New species?—Young of last?

Descr.—Above entirely olive green, except a shade of blue grey on the back of the neck; beneath and forehead yellow green, almost yellow at the vent; under tail coverts white, mixed with yellow and cinnamon; tail and wings as in the last. Length the same; wings and tail rather shorter.

I shot a single specimen of this pigeon in a grove of trees at Bimlipatam, in the Northern Circars, and have never again seen it. It is of the same slender make as the last species, and may be a young bird, but its very different locality has led me to place it separately for the present.

GEN. COLUMBA.

290.—*C. anas*, L.—*Kabootur*, II.—*Blue pigeons*.

The blue pigeon abounds over all India, occasionally found in the more open spaces of jungles, especially in rocky districts, and in the neighbourhood of waterfalls—but more generally in the open country, inhabiting walls of villages, pagodas, wells, and any large buildings, and breeding chiefly in old walls.

Irises orange; legs red.

291.—*C. Javanica*.—*Bronze-winged Dove*.—*Imperial Dove* of some.

This very lovely pigeon somewhat approaches the turtles in form, and may be considered as a link joining them to the pigeons, from which it differs in having rather longer tarsi, and in the outer toe being slightly shorter than the inner.

It is a denizen of the thickest jungles, coming to the more open spaces to feed. I have seen it in Goomsoor, in Malabar and the Wynaad, and near the top of the Neilgherries, on the Coonoor pass. It feeds chiefly on the ground on various seeds, is solitary, a shy and wary bird, and of very rapid flight. Irises orange. Length nearly 12 inches.

GEN. TURTUR, Selby.—*Fachta*, H.—*Doves*.

292.—*T. tigrinus*.—*Col. tigrina*, Temm.—*Chitroka Fachta*, H.

This handsome dove is most abundant in the neighbourhood of, and

among thick and lofty jungles. It is, however, also met with in groves of trees in the neighbourhood of the more wooded villages and towns, both in the Carnatic and Deccan.

Irides lake red ; length about 12 inches, of which tail is 5. I have seen a nearly albino variety of this bird once or twice, being of a pinkish white colour throughout.

293.—*T. Cambayensis*.—*Col. Cambayensis*, Lath.—*Tortroo Fachtah*, H.

This little dove abounds over most of India, both in low jungles and near villages and cantonments, being found especially towards the north in every garden, and frequenting stable yards, houses, &c.

Irides dark brown.

294.—*T. risoria*.—*Col. risoria*, L.—*Dhor Fachtah*, H.

This large dove is found over all the country, frequenting hedges and trees in the neighbourhood of cultivation, also low bushy jungle.

Irides fine ruby red.

295.—*T. humilis*.—*Col. humilis*, Temm.—*Serotee Fachtah*, H.

Found, though more rarely than any of the last, over all India, frequenting groves of trees, hedge rows, &c. in the neighbourhood of cultivation.

Irides dark brown.

None of these four doves are gregarious, being generally found in pairs, though at certain seasons they occasionally congregate in flocks of various size.

296.—*T. meena*.—*Col. meena*, Sykes.—*Col. Turtur*, var. ?—*Kullur Fachtah*, H.

I have hitherto only found this species of dove in the jungles of Goomsoor, where it is tolerably abundant, associating in flocks of various size. It is enumerated by Mr. Elliot as found in the Southern Mahratta Country, but I did not observe it in the forests of Malabar.

Irides orange. Length 13 inches.

(To be continued.)

II.—*List of Minerals for presentation to the Society, collected from various parts of the Nizam's territories, Ceded Districts, Kurnool, the Southern Mahratta Country, Mysore, &c.—By Lieut. T. J. NEWBOLD, 23d Light Infantry.*

No. 1.—A. Gneiss of Dummul at the base of the Kupputgode hills, Southern Mahratta Country, the weathered transition gneiss of Christie.

No 1.—B. Not weathered variety, same locality, with pale rose-coloured felspar.

2.—Mica schist, compact variety, Kupputgode hills. Before the blow-pipe, *per se*, in the platinum forceps, this rock fuses into a black enamel.

3.—Yellowish brown jaspery chert, same locality as the above, used by Hyder and Tippoo for gun-flints; fracture conchoidal, translucent at edges.

4.—Basanite, or flinty slate traversed by quartz veins, associated with the schists of the Kupputgode range.

5.—Lateretoidal rock, into which the higher and more ferruginous portions of the schists, composing the Kupputgode hills, pass.

6.—Black oxide of manganese, combined with oxide of iron and alumina; with decomposing quartz and felspar veins: the exterior exhibiting a disposition to the botryoidal structure.

7.—Variety of the above.

8.—Do. do.

9.—Porphyritic chlorite rock. Pale rose-coloured crystals of felspar imbedded in a siliceous paste, coloured by chlorite; some of the crystals decomposing into a whitish clay. This rock is associated with the siliceous chlorite schist of the Kupputgode hills. Although, petrographically considered, it might be correctly pronounced a porphyry, yet I have preferred the name just given it, as more in keeping with the geognostic position of the rock. This rock I have seen in various parts of Mysore and the Ceded Districts, associated with granite and the primary schists.

10.—A. Chlorite slate, same locality.

10.—B. Do. siliceous variety, exhibiting the tendency of this rock to split into rhomboids.

11.—Siliceous mica slate, same locality, showing traces of copper.

12.—White sub-crystalline limestone—the more granular varieties closely resemble Carrara marble—in veins in the schistous diorite, Kupputgode range.

13th.—Do. do. altered in colour, near line of contact with the slate.

14th.—Rhomboidal calc-spar, same locality.

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1.—*Catalogue of the Birds of the Peninsula of India, arranged according to the modern system of Classification; with brief Notes on their Habits and Geographical Distribution, and description of new, doubtful and imperfectly described Species.*—By T. C. JERDON, Assistant Surgeon, 2d Madras Light Cavalry.

(Concluded from No. 28 page 15.)

ORD. GRALLATORES.—*Waders.*

FAMILY ARDEADÆ.—*Cranes and Herons.*

GENUS GRUS, L.—*Crane.*

I shall commence this family with the *Cranes*, which have been accidentally omitted in Swainson's Synopsis.

297.—*G. Antigone*, Edw. pl. 45.—*Sarrus*, II.—*Greater Indian Crane.*

I have only observed this fine bird once or twice on the banks of the Godavery and Kistnah rivers, but extract from Mr. Elliot's notes the following excellent observations, chiefly made in Guzrat, it being but a rare visitant to the Southern Mahratta Country.

"The *Sarrus* lives always in pairs, though several pairs are frequently seen together, and occasionally, though rarely, a stray bird, either a young one, or one that has lost its mate, with another pair. Every morning they are seen at sun-rise winging their way to the cultivated fields, to feed upon grain, their sole aliment—and about 11 or 12 o'clock, they make their way to the nearest water to drink, always preferring the sandy beds of rivers, where they are seen in the greatest numbers, but not disdaining to resort to tanks, should no stream be near. There they remain all day, and at evening again, betake themselves to the fields, returning to pass the night by the water side. When alarmed and when on the wing in the morning flights, they utter a fine clear trumpet-like note."

The *Sarrus* is migratory, appearing in the Peninsula only in the cold weather.

Irides vinous red: bill pale sea green, brownish at the tip; legs rosy red, passing into brown in front. Length 52 inches; expansion of wings 7 feet 9 inches; tarsus 13; bill 6; weight 17 lbs.

From the testimony of Shikaries and others, there appears to be another large *Crane*, which occasionally visits the Peninsula, and from the descriptions I have heard, it is probably the *Grus Torquata* of Vieillot and Wagler.

298.—*G. cinerea*.—*Ardea Grus*, L.—*Koolung*, H.—*Common Crane*.

The well known *Crane* is found in India in the cold season only, living in pairs or small parties of 6, 8, or more. Has similar habits and food with the *Sarrus Crane*. On one occasion I found the flowers of the Koosoom (*Carthamus tinctorius*) to have been the only food partaken of. This was late in March when most of the grains were cut. The *Koolung* is often seen in company with the next bird.

Irides reddish yellow, brown in some; bill sea green; legs black. Length $3\frac{1}{2}$ feet; expansion of wings about 6 feet; tarsus $8\frac{1}{2}$; bill at front 4.

SUB GENUS ANTHROPOIDES, Vieillot.

299.—*A. Virgo*.—*Ardea Virgo*, L.—*La Demoiselle*, Buff. P. E., 241.—*Kurronch*, H. also *Kurkurrah*.—*Kurkoncha*, Can.: all named from the call of the bird—*Demoiselle Crane*.

This most elegant, and chastely coloured bird is found over most of the Peninsula, during the cold weather, and in much greater numbers

than either of the two last *Cranes*. Like these it is most abundant in the neighbourhood of the larger rivers, and has similar habits and food.

Mr. Elliot in his notes says "Flies in vast flocks—from 50 to 100, and even 500, with great regularity of arrangement, in a long line, a few of the leading ones disposing themselves in another line at an angle, varying from a right to an acute one with it. This is when they are in progress—at other times, as when disturbed during the heat of the day, they may be seen circling round at a great height, but still a regular order of lines may be distinguished. Their favourite food is chenna (*Cicer arietinum*). They never go to tanks to drink but always to rivers." When this bird is struck by a *Bhyree* (*Falco peregrinus*) its mate generally comes to its assistance. The *Bhyree* always strikes it on the back and wings, to avoid being wounded by the sharp inner claw, with which, if struck on the head, it generally manages to inflict severe wounds on the breast of the falcon.

Irides fine vinous red; bill greenish at the base, yellowish in the middle, and inclining to pink at the tip; legs black. Length $2\frac{1}{2}$ feet; expansion about 5 feet; tarsus $6\frac{1}{2}$ inches; bill to front $2\frac{3}{10}$ ths.

The inner claw of all these *Cranes* is much hooked, and exceedingly sharp, and it always in self-defence strikes with its claw and never with its bill.

GENUS ARDEA, *Heron*.—*Bugluk*, H.

SUB GENUS ARDEA, Swains.

300.—*A. cinerea*, Lath.—*A. major*, Gmel.—*Kubood*, H.—*Common Heron*.

The European *Heron* is found all over India throughout the year, frequenting tanks and rivers. It is generally solitary, but is occasionally met with in parties of 4 or 5 together. It breeds in the more wooded districts on the top of lofty trees, during the hot weather, generally 4 or 5 nests being placed together. Length 3 feet; bill at front $5\frac{2}{10}$, at gape $6\frac{1}{2}$; tarsus $6\frac{1}{2}$; centre toe and claw $4\frac{3}{4}$; hind do. $2\frac{1}{2}$.

301.—*A. purpurea*, Auct. also *A. purpurata*.—*Narec*, H.—*Purpled Heron*.

This species is much less numerous, and less generally spread than the

last one. I have seen it most abundant in the wooded western coast in the wet paddy-fields. It is also a permanent resident in India, but I have not yet seen its breeding places.

Irides yellow; bill brown above, yellow beneath; legs yellow, brown in front. Length 30 to 32 inches; bill to front $4\frac{8}{10}$ ths inch, at gape nearly 6; tarsus 6; centre toe and claw nearly 6; hind toe $3\frac{1}{2}$.

SUB-GENUS EGRETТА, Briss. Swains.

302.—*E. flavirostris*.—*A. flavirostris*, Temm. and Wagl.—*A. Torra*, Buchanan and Franklin.—*A. egretta*, Sykes' Catal.—*Mullung Buglah*, H.—also *Turrur Buglah*.—*Larger Egret*—*yellow-billed Egret*.

This bird appears to have been first described as distinct by Buchanan (according to Franklin), who named it *A. Torra*—and when without the appendages, *A. putea*. It has, however, been since named by Temminck with a more scientific appellation, which I have therefore adopted.

The large yellow-billed *Egret* is tolerably abundant in most parts of India, frequenting rivers, tanks, marshes, and the inundated paddy-fields.

Length nearly 3 feet; bill at front 4 inches, at gape 5; tarsus $5\frac{1}{2}$; bill yellow; legs black.

303.—*E. alba*.—*A. alba*, Gmel., Lath. and Wagler?—*A. Egretta* of Temm. and others?—*Puttaka Buglah*, H.—*Large black-billed Egret*.

Though I have not hitherto obtained specimens of the large *Black-billed Egret*, I have on several occasions observed it in different parts of the country, always alone. It is probably the *Egret* of Europe, said to be found in numbers in Central Asia.

304.—*E. Garzetta*.—*A. Garzetta*, Auct.—*Keerchea* (or *Kilcheeah*) *Buglah*, H.—*Small Egret*.

This *Egret* abounds over all the Peninsula, occasionally associating in numerous flocks, and frequenting rivers, tanks, paddy-fields, pools of water, &c. &c.

Irides light yellow; bill black; legs do.: feet greenish yellow. Length about 2 feet; bill at front $3\frac{2}{10}$ th inch; at gape 4; tarsus 4. It is said by the natives that the bones of this bird, if reduced to powder, and a little employed in the cooking of bony fishes, render the fish bones quite soft, so that they can be eaten with satisfaction!!

305.—*E. asha*.—*A. asha*, Sykes.—*A. jugularis* of Forster and Wagler?—*Kala Buglah*, H.—*Small blue Heron*.

This is a comparatively rare bird. I have seen it but once or twice solitary in small rivers, in the northern part of the table land. My only specimen differs somewhat from Colonel Sykes' description, in having the whole under surface of the body grey, dashed slightly with white on the neck and lower part of the body, chin and throat alone are pure white. It appears to resemble much the description of *Ard. jugularis*, but Sykes pronounces his bird distinct, so for the present I place my specimen under his appellation, as the only recorded similar Indian species. Mr. Elliot in his notes says, "Is common on the western coast at the mouths of rivers."

Irides light yellow; bill brownish horny above, yellowish beneath; legs greenish black; feet greenish. Length about 2 feet; bill at front $3\frac{1}{2}$; at gape $4\frac{2}{10}$ ths; tarsus 4.

306.—*E. Javanica*. Sw.—*A. Javanica*, Horsf.—*A. Scapularis*, Wagl.—*Kunchur Buglah*, H.—*Indian Green Heron*.

This pretty little *Heron* differs according to Horsfield and Swainson from the closely allied South American bird (*Ard. Scapularis*) in the comparative length of the toes, and in the legs being feathered close down to the knee. It is only found solitary on the banks of wooded streams, perching in general on a low branch overhanging the water. It is spread over all the Peninsula.

Irides light yellow; bill blackish above, yellowish horny beneath; legs dark green; feet yellow; lores light green. Length 17-18 inches; tarsus nearly 2; bill to front $2\frac{4}{10}$ ths, at gape $3\frac{1}{2}$.

307.—*E. Malaccensis*.—*Ard. Malaccensis*, Auct.—*A. Grayii*, Sykes, Hardw Ill. Ind. Zool.—*A. affinis*, Horsf.?—*A. Coromandelica*, Lich.?—*Buglee*, H. also *Undhe Buglee*.—*Maroon-backed Heron* or *White winged Heron*.

The supposed new species of Colonel Sykes, named by him *Ard. Grayii*, I have ascertained to be the summer or breeding plumage of the common *Ard. Malaccensis*. It begins to moult in April or May, and resumes its plain winter livery about September or October. Perhaps the most remarkable circumstance connected with this is the change of colouring the bill undergoes, from the usual plain dusky tint to the three coloured hues it presents during the hot season.

The *Buglee* is a very common and familiar bird, frequenting rivers, tanks, marshes, wet paddy-fields and pools of water—and often seen in the rivers, feeding among crowds of people, bathing and washing, with-

out any alarm or suspicion. It is often struck down by a trained Shikra (*Accip. Dukhuncensis*).

Irides light yellow; legs and feet light greenish. Length 19 inches; bill at front $2\frac{1}{2}$, at gape $3\frac{2}{10}$ ths; tarsus $2\frac{3}{10}$ th inches.

308.—*E. Caboga*.—*Ard. Caboga*, Pennant.—*A. ruficapilla*; Vieill. ?—*A. russata*, Wagler ?—*Dorreak Buglah*, H.—*Sorreak Buglah* of some.—*Cattle Heron*.

This well known species is generally found in flocks of various size in company with herds of cattle, feeding on grasshoppers, and other insects disturbed by them whilst grazing. It seldom resorts to water like its other congeners, except during the heat of the day. Like the last, it assumes its beautiful golden or ruddy tint on head, neck and back, only during the breeding season.

Irides bright yellow; bill dark yellow; legs and feet bluish. Length about 20 inches.

The specific name is derived from the Hindustani '*Gao Buglah*', meaning *Cow Heron*.

SUB GENUS BOTAURUS, Briss.—*Bitterns*.

309.—*B. cinnamomeus*.—*Ard. cinnamomea*, Gmel.—*Lal Buglah*, H. of some.—*Little Chestnut Heron* or *Bittern*.

I have only found this little species at all common on the wooded regions of the western coast, generally in marshy ground, or in the wet paddy-fields. I have also seen it on the banks of the Pykarra river on the Neilgherries, and Mr. Elliot mentions it as common in parts of Dharwar.

Length about 15 inches; bill at front 2, at gape $2\frac{7}{10}$ ths; tarsus $1\frac{9}{10}$ ths,

310.—*B. Stellaris*, Briss.—*Nir Goung*, H.—*Common Bittern*.

I have not myself hitherto procured a specimen of the *Bittern*, but know that it has been killed near Jaulnah and Aurungabad, in marshy ground. It is enumerated, moreover, both in Sykes' Catalogue and by Mr. Elliot, and the latter gentleman has lately shown me a fine specimen shot on the Neilgherries, during the hot season.

SUB GENUS NYCTICORAX, Steph.

311.—*N. Europæus*.—*Ard. nycticorax*, L.—*Wākh*, H.—*Night Heron*.

The *Wākh* is of universal occurrence throughout the Peninsula,

but most common in the more wooded regions. It roosts during the day on high trees, often in palm groves, and sallies forth to the waters in the neighbourhood after sunset to feed upon fish, frogs, and other aquatic animals. It breeds on palm and other trees, many nests together. Its Hindustani name is derived from its harsh call.

Irides crimson. Length 21 to 23 inches; tarsus 3; bill at gape 4, at front $2\frac{5}{10}$ ths.

GENUS PLATALEA, L.

312.—*P. leucorodia*, L.—*Chumuch Doozah*, II.—*White Spoonbill*.

The *Spoonbill* is tolerably abundant over India, frequenting rivers and tanks, occasionally in numerous flocks, and feeding on various aquatic insects, *crustacea*, small fish, &c.

The Hindustani name signifies '*Spoon Ibis*,' and I think from its manner of feeding, its small gape, and its flight, the *Spoonbill* shews more affinity to the *Ibis* family than to that of the *Hérons*, with which most authors associate it.

GENUS CICONIA, Briss.—*Storks*.

Besides the *Mycteria*, already separated from the *Storks*, there appear to be three types (which might be made into as many sub-genera) among the Indian *Ciconiæ*. One is represented by the *white Stork*, a second by the *black Stork*, and a third by the *carion eating Storks*, or *Adjutants*. The *white-necked stork* appears to be a link between the *white* and *black Stork*, as well in form as in its habits, being partly terrestrial, and partly aquatic in its habits.

313.—*C. alba*, Briss.—*Lug-lug* or *Oojlee*, II. also *Hajee Lug-lug*.—*White Stork*.

The *white Stork* is found, though rarely, throughout India, during the cold weather only, feeding in large flocks on the open dry plains on grasshoppers, beetles, and other land insects, also on lizards and small snakes.

Irides brown; bill, legs and feet red.

314.—*C. leucocephala*.—*Ard. leucocephala*, Auct.—*Cic. umbellata*, Wagler.—*Kalce*, II.—*Manuhjor*, in Hindostan.—*White necked Stork*.

This handsome *Stork* is a permanent resident in India, breeding on high trees in the more wooded parts of the country. In its habits it

partakes somewhat of both the *Cic. alba*, and *Cic. nigra*, being, though perhaps most generally found about rivers, streams, marshes and tanks, often seen feeding on the open dry plains, or on bare cultivated ground. It feeds alike on fish, frogs, crabs and other aquatic food, and on grasshoppers, beetles, and other land insects.

Irides dark scarlet, surrounded by an external narrow ring of pale yellow; bill black, dark red at the edges and point; naked skin of the face black; legs red. Length 30 to 34 inches; bill at front $6\frac{1}{2}$ -7.

315.—*C. nigra*, Auct.—*Soormae*, II.—*Black Stork*.

This, like the *Oojlee* is also migratory, being only found in the Peninsula during the cold season. It is a rare bird, and generally seen solitary near tanks, rivers, and small streams, feeding on fish, frogs, and various aquatic insects, and their larvæ. A good *Bhyree* will strike it down, and it is eagerly sought after for this purpose.

Orbits naked and red; bill deep red; irides brown; legs brownish red. Length $3\frac{1}{2}$ feet; expansion of wings 6 feet; bill at front $7\frac{1}{2}$ inches; tarsus $8\frac{1}{4}$.

316.—*C. Argala*, Steph.—*Ard. dubia*, Gmel.—*Cic. Marabou*, Temm.—*Adjutant* of Calcutta

I have but once seen this enormous bird during the early part of the monsoon in the table land near Jaulnah, but did not obtain it.

317.—*C. nudifrons*.—New species?—*Dusta*, II.—*Black-mantled Adjutant*.

Descr.—Plumage above glossy black; the greater coverts pale dusky brown, edged with whitish, beneath pure white. Bill, frontal plate, and occiput, dirty greenish; head, neck and gular bag, reddish pink above, yellowish beneath; head, neck, and as far as the end of the gular bag, covered with strong scattered hairs, or rather hair-like feathers. Irides light greyish brown or grey; feet blackish; forehead, only, naked and horny. Length $4\frac{1}{2}$ -5 feet; bill at gape $11\frac{1}{2}$ inches, 2 inches broad beneath at the base; 3 inches high at base; tarsus 11; tibia 15; tail 12; wing about 30; face, throat and lower part of neck with numerous black spots; gular bag when *stretched* about 6 or 7 inches long.

This species is tolerably common in the northern portion of the Dekhan, more especially during the monsoon. It is usually solitary—occasionally in parties of 4 or 5. It descends like the *Vultures* on any carcasses, or stalks about the plains, sometimes close to cantonments, picking up reptiles, insects, and garbage of any description.

318.—*C. calva*.—New species?—*Chinjara*, H.—*Crab-eating Adjutant*.

Descr.—Above glossy black, with purple and green reflections; the feathers of the back and coverts obsoletely marked with numerous black bars; greater coverts dark brown; tertials and scapulars, bottle green, edged with white; beneath pure white; bill dirty greenish; head perfectly naked and horny. A thick tuft of hairs on the occiput, and a few scattered hairs on the neck. Has no gular pouch. Length $4\frac{1}{2}$ feet; bill $11\frac{1}{2}$ inches; much more slender than in the last. Breadth at base beneath $1\frac{1}{2}$; height at do. $2\frac{1}{2}$; tail nearly 12; tarsus 10; wing 25 inches. I found the stomach of one crammed with crabs, and a few large grasshoppers.

The under tail coverts of the 3 last species are known under the name of *Marabou* feathers, and are highly prized, and much sought after.

SUB GENUS MYCTERIA, L.

319.—*M. Australis*, Lath.—*M. Asiatica*, Lath.?—*Bunarus*, H.—*Large black and white Stork*.

This gigantic looking bird is rare in Southern India, being found singly occasionally in tanks and large rivers. It lives on fish, frogs, and various other aquatic animals. Its length of limb gives it the appearance of being a much larger bird than it really is. The young bird has the neck light brown, and very downy, and the colours much less vivid throughout; the irides also dark brown.

Irides yellow; bill black; legs rosy red. Length $4\frac{1}{2}$ feet; expansion about 7 feet; bill 13 inches; tarsus $13\frac{1}{2}$; weight about 11 lbs.

GENUS HÆMATOPUS, L.

320.—*H. ostralegus*, L.—*Durya Gujpaon*, H. i. c. *Sea Longshanks* (*Himantopus*).

This bird is included in Mr. Elliot's Catalogue, having been found by him on the western coast, towards the more northern part of the Peninsula, and I have since heard of its having been procured as far to the southward as Mangalore.

FAMILY TANTALIDÆ.—1bis.

GENUS ANASTOMUS.—III.—*Open beak*.

321.—*A. typus*, Temm.—*Ard. Coromandelica* and *Ard. Ponticeriana*, Auct.—*Goongloo* or *Goonglah*, H.—*Indian Shell Eater*.

This curious bird is tolerably common in those parts of the country where tanks and marshes abound. It lives in flocks of various size or solitary, and feeds on fish, frogs, and various other aquatic animals, but chiefly when procurable, on shell-fish (a species of *Unio*), the breaking of the shell of which to get at the contents, is the cause of the open space or gape between the mandibles, which does not exist in the young birds. Colonel Sykes I see, however, appears to think that the gape exists originally in the young bird, and that it is a provision of nature to effect the opening of the shells, on which it feeds. From my own observations, however, corroborated moreover by Mr. Elliot's, I am inclined to think that the former is the more correct opinion, viz. that the open space is caused by the constant attrition of the mandibles on the hard testaceous covering of the shell-fish. The *Goongloo* frequently perches on trees, and breeds, I am informed, on lofty trees.

Irides bright yellow; bill dark greenish; orbits and pouch, naked and black; legs greenish, with a shade of pink; middle claw, with a sharp edge internally, but not serrated. Length 32 inches; expansion of wings $1\frac{1}{2}$ feet.

This bird flies tolerably rapidly, and with more quickly repeated strokes of its wings than any of the *Heron* family, with which it has generally been placed by systematists.

GENUS TANTALUS, L.

322.—*T. leucocephalus*, Lath.—*T. Indicus*, Cuv.—*Dökh*, H.—*Jaunghul*, in Hindostan.—*Pelican Ibis*.

The *Pelican Ibis* (as it may be named) is common over all India, frequenting rivers, tanks, pools and marshes, generally in parties more or less numerous, and feeding on fish, frogs and aquatic insects, and also according to Sykes, on vegetable matter. It perches freely on trees, and breeds on lofty trees, during the hot weather and monsoon. During the heat of the day, they may be seen standing motionless in the water knee-deep, digesting their morning's meal. They are said to feed a good deal, during the night. The scapulars assume their most beautiful rosy tinge, during the hot weather, or breeding season. The *Bhyree* strikes this bird always on the head, its mandibles being sharp, and inflicting a severe cut.

Irides yellowish brown; bill, naked face and crown, and chin pouch, deep ochre or orange yellow; legs pale dirty pink. Length $3\frac{1}{2}$ feet; expansion of wings about 6 feet; bill (at gape) sometimes nearly 1 foot.

GENUS IBIS.

323.—*I. Macei*, Cuv. and Wagl.—*I. religiosa*, of Sykes' Cat.—*Tant. melanocephalus* of Lath.—the young bird.—*Moonda*, H.—*Suffeid Boozah* of some.—*Black-headed Ibis*.

The Indian *Black-headed Ibis*, is generally supposed to be a different species from the one found in Egypt, and which was held sacred, and embalmed by the ancient Egyptians. Colonel Sykes, however, asserts their identity. This bird is found in tanks, rivers, marshes, wet paddy-fields &c. in flocks of various size, and feeds on small fish, frogs, crabs, shrimps, and a variety of insects, both water and land, for it is occasionally seen feeding on the dry ground, near rivers and tanks. It is found at all seasons, and therefore most probably, breeds in this country, though I have not yet seen its nest. Inside the bone of the wings is covered by a bright red skin, as in the *Cic. leucocephala*. The young bird has the head and neck partly covered with small white feathers, and is therefore, as Wagler imagines, the *Tant. melanocephalus* of Latham.

Irides lake red; bill, naked head and neck, and feet black. Length 30 to 34 inches; bill at gape about 7; tarsus 4; weight 3½ lbs.

324.—*I. papillosa*, Temm. P. C.—*Boozah*, H.—*Kala Boozah* of some.—*Warty-headed Ibis*.

This bird is of common occurrence throughout India, being found in numerous flocks, feeding on the open plains, chiefly on grasshoppers, beetles, and other land insects, also few even on water insects, frogs, &c. It breeds on trees in the neighbourhood of water, sometimes alone, but at times in numerous parties. Colonel Sykes says correctly "Soar high in the air, uttering melancholy screams." It makes a long flight with a *Bhyree*, and requires a good one to capture it.

Irides light red; bill brownish red; legs dirty brick red; papilla of the crown and occiput, bright red—naked skin on which they are placed black. Length 25 to 30; bill at gape 6; tarsus 3; weight 3¼ lb.

325.—*I. falcinellus*, Temm.—*I. igneus*—young bird of the 2d year, according to Wagler.—*Kewaree*, H.—*Glossy Ibis*.

As I have always shot the so called *I igneus* in company with the other species, I am induced to agree with those who consider it as the young bird of the *I. falcinellus*.

The *Glossy Ibis* frequents shallow water at the edge of tanks and rivers—also marshes and wet paddy-fields. It is always found in flocks,

and feeds on frogs, shell-fish, shrimps and various insects, and their larvæ, both aquatic and terrestrial.

Irides brown ; bill and legs dark olive green ; a whitish skin goes round the base of the bill, the eyes and the gape. Length varies from 22 to 26 inches ; of a full grown male, the bill is nearly 6 inches ; and tarsus $4\frac{1}{2}$.

*sent paper by 8/5.
to Z.S. 22 April/85.*

FAMILY RALLIDÆ.—Rails, &c.

GENUS PARRA, L.—*Peeho*, II.—*Tank-runner*.

326.—*P. Indica*, Lath.—*P. aenea*, Cuv.—*P. melanchloris*, Vicill.—*P. superciliosa*, Horsf.—*Indian Tank-runner*.

This curious bird is found over most of the Peninsula, in tanks covered with weeds, and water lilies, on the leaves of which it runs with great facility. It feeds chiefly on seeds, and other vegetable matter.

Bill green at the base, yellowish at the tip ; legs dark green. Length about 1 foot ; bill to posterior end of frontal plate $1\frac{3}{4}$; tarsus $2\frac{9}{10}$ ths ; centre toe and claw $4\frac{1}{2}$; hind do. 4.

327.—*P. Sinensis*, Gmel., Gould. Cent. Him. Birds.—*Golden-necked Tank-runner*.

This handsome species, is perhaps, more generally spread than the last, but not so numerous, except in some few localities. It frequents, like the last, weeded and lily-covered tanks, but is also often to be seen feeding at the edges of rivers and tanks, totally devoid of weeds. Feeds on seeds, also on shells and water bugs.

Irides deep brown ; bill and legs olive green. Length 22 inches ; tail $11\frac{1}{2}$; tarsus 2 ; middle toe and claw 3 ; hind do. 2 ; bill at front 1.

GENUS PORPHYRIO, Briss.

328.—*P. smaragnotus*, Temm.—*Gall. poliscephala*, Lath.—*Keima*, H.—*Sultana Coot* or *Purple Coot*.

This handsome bird is tolerably common on most of the weedy and grassy tanks, throughout the country, especially when covered with the lotus, walking easily on the leaves, and feeding chiefly on seeds and vegetable matters.

Irides blood red ; bill and frontal plate, cherry red ; legs pale brick

red ; wing spur also reddish. Length 18 inches ; bill at gape $1\frac{1}{2}$; tarsus $3\frac{8}{10}$; middle toe and claw nearly 5 ; hind do. $2\frac{1}{2}$.

GENUS FULICA, L.—Coot.

329.—*F. atra*, L.—*Dasree* or *Dasurnee*, H.—*Bald Coot*.

The *Common Coot* of Europe is a common and abundant bird on most of the Indian tanks, even on those that dry up during the hot months. Lives chiefly on vegetable matters.

Irides blood red ; bill and frontal plate white ; legs green reddish at the sides ; feet leaden coloured. Length nearly 18 inches.

GENUS RALLUS, L.—Rail.

330.—*R. Gularis*, Horsf. ?—*R. caeruleus*, Lath. ?—*Blue-throated Rail*.

The species of *Rail*, of which I give a description below, is found in reeds and long grass, by the sides of tanks, rivers and water-courses. I have only seen it in Travancore and Cochin, but it is also enumerated in Mr. Elliot's Catalogue, as found in Dharwar.

Descr.—Crown, top of the head and nape, deep chestnut, diverging into two streaks on the back of neck ; chin white ; cheeks, sides of neck, throat and breast, light leaden ; back, beneath, and wings dark brownish, with a strong olive gloss, and numerous narrow white transverse bars, most numerous on the abdomen and thighs.

Bill sanguineous at the base, and diaphanous, brownish at the tip ; legs brown, with a reddish tinge. Length about 11 inches ; wing $4\frac{8}{10}$; tarsus $1\frac{6}{10}$; bill at front $1\frac{2}{10}$.

331.—*R. rufescens*, Vicill. ?—*R. Philippensis*. ?—*R. striatus*. ?—*R. Ceylonicus*. ?—*Larger brown rail*.

I procured a single specimen of a *Rail* near Cochin, which I cannot refer exactly to any described species, but which appears to approach some of the species named above. I add a brief description : head deep brown ; above olive brown ; the feather edged with pale yellowish rufous ; cheeks and sides of neck fawn ; chin and throat white ; beneath pale fawn, with numerous transverse dark marks ; middle of abdomen white ; shoulder with a tinge of cinereous and edged white. Length 14 inches ; wing 7 ; tarsus $2\frac{1}{2}$; tail 3 ; bill at the front, including frontal plate $1\frac{1}{2}$.

GENUS GALLINULA.

332.—*G. akool*, Sykes.—*Indian Water Hen*.

This common bird is found chiefly in reeds and long grass, by the sides of tanks, rivers, and water-courses, and is flushed with difficulty.

I have seen specimens exactly like those described by Sykes, others in which the chin was entirely black,—and others in which there was much white, extending down the middle of the abdomen. These were all from different localities, but most probably, were only different ages of the same bird. There may, however, be several varieties, or it may be distinct species. Length nearly 1 foot; bill at gape 1 inch; tarsus $1\frac{7}{10}$; middle toe and claw nearly 3; hind do. $1\frac{2}{10}$.

333.—*G. Javanica*, Horsf., most probably the same as the *G. phœnicura*.—*Dawuh*, H. — *White-cheeked Gallinule*.

This handsome bird is by no means uncommon in many parts of the country, though seldom seen in some districts. It frequents bushes in the neighbourhood of water or marshy spots—also gardens and hedges in dry ground. Found both solitary, and in parties of 5 and 6. Feeds upon insects of various kinds, both land and water.

Irides red; bill green, whitish at the tip; legs greenish yellow; dusky behind. Length 12 inches; bill at gape $1\frac{1}{2}$; tarsus $2\frac{2}{10}$ ths; middle toe and claw $2\frac{3}{4}$; hind do. $1\frac{2}{10}$ ths.

FAMILY SCOLOPACIDÆ.—*Snipes and Sand-pipers*.

GENUS SCOLOPAX, L.

SUB GENUS RHYNCHILÆA.—Cuv.

334.—*R. picta*, Gray, Proc. Zool. Soc.—*R. capensis*, Auct.—*Painted Snipe* of Europeans in India.

The *Painted Snipe* is a permanent resident in India, being found at all seasons in suitable ground, viz. the grassy edges of tanks, marshes, inundated paddy-fields, and the usual haunts of the common snipes. It, however, appears in much greater numbers at the commencement of the cold season, along with the other snipes, so probably the greater number breed towards the more northern part of India. This has, probably,

led Colonel Sykes and others to consider it as migratory. I have, however, seen it throughout the hot weather and monsoon in two successive years, and find the same fact stated by Mr. Elliot.

Irides dark brown; bill dusky reddish; legs green. Length about 9 inches; bill 2; tarsus $1\frac{2}{10}$ ths.

SUB GENUS SCOLOPAX.

335.—*S. rusticola* ?—*S. minor* ?—*S. saturata*, Horsf. ?—*Neilgherry Woodcock*.

I find it impossible from the meagre descriptions of authors, to ascertain whether this bird is identical with the European bird or not, or whether, as some have supposed, it may be the American species, from its smaller size. It appears to correspond in plumage pretty closely with the European bird, but from the examination of a good number of fresh specimens, it seems to be a considerably lighter bird. It arrives on the hills about November; a stray bird or two being sometimes killed in October, and leaves in March.

Length 15 to 16 inches; wing $8\frac{1}{4}$; bill at front 3 to $3\frac{2}{10}$ ths; tarsus $1\frac{2}{10}$ ths; tail $3\frac{1}{4}$; average weight about 9 or $9\frac{1}{2}$ oz.; varies from 7 to 11 oz.

336.—*S. nemoricola*, Hodgson, Journ. Asia. Soc. No. 66.—*Solitary Snipe* of the Neilgherries.

This bird differs considerably from the solitary snipe of Europe (*S. major*, L.). It is a rare visitant to the Neilgherries during the cold season, and has not, as far as I am aware, been killed elsewhere in the Peninsula. It frequents the marshy ground at the foot of the dense woods of the hills. I obtained a specimen from J. Scott, Esq. of the M. C. S. which is about 13 inches long, the bill being $2\frac{6}{10}$ ths.

337.—*S. gallinago*, L.—*Bhuruk* or *Buruk*, H.—*Common Snipe*.

The *Snipe* is found in great numbers all over the Peninsula during the cold season, frequenting grass by the sides of tanks, and streams, marshes, but more especially the inundated paddy-fields.

338.—*S. gallinula*, L.—*Jack Snipe*.

The *Little Jack Snipe* is tolerably abundant along with the last in some parts of the country, especially towards the more northern part of the Peninsula.

SUB GENUS LIMOSA, Briss. and Swains.—*Godwit*.

339.—*L. leucophæa* ? ?.—New species ?—*Chaha*, H.—*Large Godwit*.

This bird, which, in absence of more precise information, I have referred to the European *Godwit*, though strongly suspecting it to be distinct, is a rare visitant to the Peninsula, during the cold weather, and frequents the shallow water at the edge of large tanks. I add a brief description.

Above ashen grey, darkest on the back and rump; beneath white, ashy on the neck, breast and sides; upper tail coverts white, black tip; tail white at the base, the rest black, with a narrow black tip. Length 20-21 inches; bill 5; tarsus 4; wing 9; tail $3\frac{1}{4}$; bill reddish white, dusky at the tip; legs and feet greenish black.

340.—*L. melanura* ?.—*Chota Chaha*, H.—*Lesser Godwit*.

I have only seen this species on two or three occasions, at the edges of tanks, on the northern part of the table land. As I am by no means certain, that it is the same as the European bird, I also add a description of this one. Plumage above brown; the feathers edged with fawn; head, neck and breast, pale ashy brown; throat white; tail black, white at the base; tail coverts as in the last. Length of one specimen 17 inches; bill $3\frac{4}{10}$ ths; tarsus $2\frac{1}{2}$; wing 8; tail $2\frac{3}{4}$.

341.—*L. terek*, Horsf.—*S. terek*, Lath.—*Limicola Indiana*, Vieill.

I have only seen this curious bird on one occasion at the edge of the Trichoor lake. Length nearly 9 inches; bill $1\frac{8}{10}$; wing 5; tail 2; tarsus $1\frac{1}{10}$ ths; bill blackish, green at the base; legs orange.

SUB GENUS TRINGA, L. Swains.

342.—*T. Hardwickii*.—*Limosa Hardwickii*, Gray and Hardw. Ill. Ind. Zool.—*Gehwala*, H.—*Large brown Sand-piper*.

I can find no description of this handsomely plumaged *Sand-piper* in any of the works I possess. It appears, however, to be the same as the species figured in Gray and Hardwicke. It is one of the first that make their appearance here, at the commencement of the cold weather. I have seen them in the middle of September, and as late as the end of March. It frequents the edges of large tanks in numerous flocks. I add here a brief description. Plumage above brown, of various shades of intensity, each of the feathers edged with pale brown, or whitish, or in some with rufous fawn; head and neck paler; face, throat, and plumage beneath white, ashy on the neck and breast. In those specimens killed

I have only seen this curious bird at the edge of a large tank at the extreme north of the Peninsula, but I have seen stuffed specimens killed as far south as Madras.

Irides red brown; bill black; legs French grey. Length 18 inches; bill $3\frac{3}{10}$; tarsus $3\frac{1}{4}$.

SUB GENUS HIMANTOPUS.—*Longshanks*.

348.—*H. melanopterus*, Auct.—*Guj-paong*, H.—*Common Longshanks* or *Stilts*.

Very common all over India, during the cold weather, not leaving till April, frequents rivers, tanks and marshes in numerous flocks. A few couple probably remain here the whole season, as I have seen them as late as June, in pairs on the banks of wooded streams and reedy tanks.

SUB GENUS TOTANUS, Sw.—*Sand-piper*.

349.—*T. glottoides*, Vigors, Gould's Century of Himalayan Birds.—*Tintimma* or *Toomtomma*, H.—*Indian Greenshanks*.

Found solitary all over India in rivers, brooks and tanks. Is a wary bird, rising with a very shrill and loud cry—hence its Indian name.

Irides dark brown; bill greenish black; legs pale olive. Length 14; bill $2\frac{2}{10}$ ths; wing 7; tarsus $2\frac{1}{2}$; middle toe $1\frac{6}{10}$ ths.

350.—*T. Horsfieldii*.—*Limosa Horsfieldii*, Sykes.—*Chota Tintimma* H.—*Lesser Greenshanks*.

This, like the last, is in general found solitary, but much more rare. I have, however, seen it in very large flocks at the Trichoor lake.

Irides dark brown; bill blackish; legs pale olive green. Length 10 inches or $10\frac{1}{2}$; wing $5\frac{1}{2}$; tail $2\frac{1}{2}$; tarsus $2\frac{3}{10}$ ths; bill to front $1\frac{6}{10}$ ths; weight 3 ounces.

351.—*T. fuscus*?—*Butan*, H.—*Large red-legged Sand-piper*.

Whether this is the species to which I have temporarily referred it or not, can only be determined by actual comparison. I have found this bird very rarely in the Peninsula of India, and only towards the more northern portion of it, by the side of rivers or tanks, and solitary. Specimens killed towards the end of the cold season in April, had assumed the dark summer plumage.

Irides dark brown; bill brown, red at the base beneath; legs orange red. Length 14 inches; wing $6\frac{1}{2}$; tail $2\frac{1}{2}$; bill $2\frac{3}{10}$ ths; tarsus $2\frac{3}{10}$ ths.

352.—*T. calidris*, Auct. ?—*Chota Butan*, H.—*Redshanks*.

As the bird I am now speaking of, is about the same length, and answers nearly to the description of the European *Redshanks*, I have for the present referred it to that bird. I have only obtained a single specimen of this *Sand-piper*, shot at the edge of a tank in the northern part of the table land.

Irides dark brown; bill brown; legs orange red. Length $10\frac{1}{2}$ -11 inches; wing 6; tail $2\frac{4}{10}$ ths; bill $1\frac{6}{10}$ ths; tarsus $1\frac{3}{10}$ ths.

353.—*T. glareola*, L.

Found in small parties, or sometimes solitary at the edges of tanks, rivers, brooks and pools of water, common every where. Length 9 inches.

354.—*T. Ochropus*.

Almost always found solitary, occasionally in parties of 3 or 4, in the same localities as the last, and still more common.

Length 10 inches.

355.—*Hypoleucos*.

Found solitary in similar situations with the 2 last species, but not nearly so common.

Length 8 to $8\frac{1}{2}$ inches; wing $4\frac{1}{2}$; tail $2\frac{2}{10}$ ths; tarsus 1; bill nearly 1; bill brown, greenish at base beneath; tarsus pale green.

GENUS STREPSILAS, Ill.—*Turnstone*.

356.—*S. interpres*, Auct.—*Common Turnstone*.

I obtained a pair of these prettily marked birds at the tank of Jaulnah, 200 miles inland, in the month of April, and have since seen specimens procured as far to the southward as Madras.

Irides dark brown; bill black; legs orange. Length 9 inches; wing 6; tail $2\frac{1}{2}$; tarsus nearly 1 inch; bill at front $\frac{1}{10}$ ths.

GENUS NUMENIUS, Briss.—*Curlew*.

357.—*N. arquata*.—*Goungh*, H.—*Curlew*.

I obtained a single specimen of the *Curlew* at the edge of a tank, near

Jaulnah. It is enumerated also in Mr. Elliot's Catalogue as found in Dharwar.

358. *N. phæopus*.—*Chota Goungh*, H.—The *Whimbrel*.

I saw the *Whimbrel* in considerable numbers at the Chilka lake, and have also seen it on the sea coast, near Madras, and in various other places. Mr. Elliot says, 'Found every where along the sea-shore, and mouths of large rivers.'

FAMILY CHARADRIADÆ.—*Plovers*.

GENUS CHARADRIUS, L.

359.—*C. pluvialis*, L.—*Golden Plover*.

The *Golden Plover* is but rarely met with in the Peninsula. I have only seen it on two or three occasions on the banks of large rivers on the table land, and on grass plains, near the sea coast—usually in small flocks of 5 or 6. I have seen specimens killed in the neighbourhood of Madras, in the breeding plumage viz. with the whole under surface of the body deep black. It therefore, most probably, breeds in this country.

360.—*C. Philippensis*, Lath. ?—*Zirreah*, H. of some.—*Common ringed Plover*.

This pretty little bird is found not only at the sides of rivers, and tanks, but also, and perhaps more generally, in the open dry plains, in flocks of various size, running rapidly along the ground, and picking up various small insects. I have found it all over the Peninsula.

Irides deep brown; bill black; legs yellowish; orbits bright yellow. Length $7\frac{1}{4}$; wing $4\frac{3}{4}$; tail $2\frac{1}{2}$; bill at front $\frac{1}{2}$ inch; tarsus nearly 1.

361.—*C. minor*, Wagl. ?—*C. hiaticuloides*, Frankl. ?—*Lesser ringed Plover*

This species differs but little from the last. It is smaller—has the upper plumage of a darker shade, the quills also much darker, the tertials less lengthened, the lateral tail feather have more white, and the base of the lower mandible is yellow.

I have only found it at the northern part of the table land, at the edge of rivers.

Irides deep brown; bill black, yellow at the base beneath; legs yellow; orbits deep yellow. Length hardly $6\frac{1}{2}$; wing 4; tail 2; bill to front $\frac{1}{16}$; tarsus $\frac{5}{16}$ ths.

362.—*C. cantianus*. ?—*C. ruficapillus*, Temm. ?—New species.?

I have found this *plover* at the edge of rivers and tanks, at the northern part of the table land, and also more lately by the side of salt-water inlets, and the sea shore on the east coast, during the hot season in June.

As I am uncertain of its being the European species indicated, I shall give a brief description.

Forehead, eyebrows, face and beneath, pure white; a narrow line from the gape, passing through the eyes and ears, cinereous; a narrow blackish band behind the white forehead; crown of head and nape ferrugineous; plumage above cinereous; external tail feathers pure white; no naked skin round eyes; bill black; legs greenish yellow.

Length 7 inches; wing $4\frac{3}{10}$; tail $1\frac{8}{10}$; bill at front $\frac{6}{10}$; tarsus rather more than 1 inch.

363.—*C. russatus*.—New species. ?

Descr. Forehead, streak on either side, extending through the eyes, ears, and meeting behind, and a broad pectoral band deep brownish black; top of the head, back and wing coverts of the usual brown cinereous hue of the *Ringed Plovers*; band above the eyes, encircling the head, except in front, and plumage beneath white; wing coverts edged with white; quills and medial tail feathers, dark brown; external tail feathers white, with a brown band which almost disappears on the outermost feather; scapulars deep maroon colour; upper tail coverts, tinged with rufous; bill yellow with black tip; orbits bright yellow; legs orange yellow.

Length $6\frac{1}{2}$ inches; wing $4\frac{1}{2}$; tail $2\frac{2}{10}$; bill at front nearly $\frac{6}{10}$ ths; tarsus rather more than 1 inch.

I procured a single specimen of this apparently new species of *Ringed Plover* at the edge of the Pulicat lake near Madras, in the month of June. Its distinguishing feature is the maroon colour of the scapulars. Whether this is a permanent mark, or, as I conjecture may be the case, only assumed during the breeding season, I am at present unable to determine.

GENUS VANELLUS.—*Lapwing*.

364.—*V. bilobus*.—*Charadrius bilobus*, Gmel. and Wagler.—*Zirdee*, H.—*Yellow wattled Lapwing*.

This *Plover* is found throughout India, usually frequenting the dry stony plains, or open sandy downs in small flocks, and feeding on various insects. Has a feeble cry, which Colonel Sykes renders as “*Deewit Deewit*.” I found the eggs of this bird on one occasion on a grass plain, on the west coast, in the month of September. They were of a light salmon colour with dusky spots, 4 in number, and laid on a slight depression of the ground.

Irides silvery grey; bill black, yellow at the base; naked skin yellow; legs do. Length nearly 12 inches; wing $8\frac{1}{4}$; tail $3\frac{2}{10}$; tarsus $2\frac{4}{10}$; bill to front 1 inch.

355.—*V. Goensis*.—*Tringa Goensis*, Lath.—*Char. atrogularis*, Wagler.—*Teteehree* (ulgo *Teetooree*), H.—*Red wattled Lapwing*.

This well known bird is common throughout most of India, single occasionally, but usually in small parties. It frequents the land in the neighbourhood of water, feeding on various insects, chiefly water ones, shells, &c. It has a loud shrill cry, something like ‘*Did he do it*,’ or as others say ‘*Pity to do it*.’ This call is much heard at night, even in places where none were seen during the day. It is often very annoying to sportsmen, hovering over him, and uttering its shrill cries for some distance.

The *Teteehree* is said by the natives to sleep with its legs upwards, and the Indian proverb ‘*Teteehree se asman thama jaega*,’ or can the *Teteehree* support the Heavens? is applied to a person who undertakes something far above his strength.

Irides red; bill at the base and fleshy skin, lake red; tip of bill black; legs yellow. Length nearly 13 inches.

366.—*V. ventralis*.—*Charad. ventralis*, Gray and Hardw., Ill. Ind. Zool.—*C. coronatus*, Vieill. ?

I obtained a single specimen of a bird which appears to be the young or female of the one figured in Gray and Hardwicke, at the edge of a large tank near Jaulnah. It answers the description too (with the exception of the black spot on the abdomen) of Wagler’s *C. ventralis*, but that bird is described among the 3-toed *Charadrii*. My bird has a hinder toe, though a very small one.

This bird is evidently a link joining the *Vanelli* to the *Ædicnemi*, its bill being larger and more robust than that of most *Vanelli*.

Irides dark brown; bill and legs black. Length 13 inches; wing $8\frac{1}{2}$; tail $3\frac{1}{2}$; tarsus $2\frac{3}{10}$; bill to front $1\frac{2}{10}$ ths.

Irides dark brown ; bill black ; gape dark red ; legs black. Length $7\frac{1}{4}$ inches ; wing beyond tail $1\frac{6}{10}$ ths ; from base 6 ; bill at front $\frac{4}{10}$ ths ; tarsus $\frac{9}{10}$ ths.

370.—*G. torquata*, Temm.—*Fork-tailed Swallow Plover*.

I have seen this bird but very rarely in small flocks, or pairs, by the edges of tanks or rivers, feeding chiefly like the last, on various aquatic insects and larvæ, especially on *Nepæ*. On one occasion, I saw a numerous flock of them flying low over some grain fields, apparently capturing insects on the wing. Its flight is remarkably swift, and swallow-like, as is that of the last species.

Irides dark brown ; bill and legs black ; the posterior portion of the gape red. Length 11 inches, of which the tail is $4\frac{3}{4}$; wing $7\frac{1}{2}$; bill at front $\frac{1}{2}$ inch ; at gape nearly 1 inch ; tarsus $1\frac{3}{10}$ ths.

SUB GENUS TACHYDROMUS, Ill.—Cursorius, Lath.—*Courier Plover*.

371.—*T. Asiaticus*.—Char. *Coromandelicus*, L.—*Nookree*, H.—*Indian Courier Plover*.

The *Courier* is very numerous towards the more northern part of the table land, much less so towards the south. It frequents the open bare plains only, in numerous flocks, running along with great celerity, and picking up various insects, beetles and small grasshoppers and their larvæ. It breeds in the more retired spot during the hot weather, laying 3 eggs of a pale greenish yellow colour, much blotched, and spotted with black, and also with a few olive spots. They are deposited in a slight hollow.

Irides deep brown ; bill black ; legs creamy white, as if coated with paint. Length varies from $8\frac{1}{2}$ to nearly 10 inches ; wing 6 ; tail $2\frac{1}{10}$; bill at front $\frac{9}{10}$; tarsus $2\frac{2}{10}$. As I have frequently killed birds of various length from the same flock, I fancy that Swainson's supposed new species *T. Orientalis*, said to differ only in size from the *T. Asiaticus* of authors, must be abandoned.

SUB GENUS AMMOPTILA, Sw.

372.—*A. charadroides*, Sw. ?—*Sand Plover*.

A bird of this remarkable genus is mentioned in Mr. Elliot's Catalogue, but without any description, so I am uncertain if it is the same species as

the one indicated by Swainson, in his Synopsis. Mr. E. mentions his having found it in flocks on the sea-shore, on the west coast of India.

Bill black ; legs and feet plumbeous. Length 15 inches.

ORD. NATATOIRES.—*Swimmers.*

FAMILY ANATIDÆ.—*Ducks.*

SUB FAMILY PHÆNICOPTINÆ,—SW.

GENUS PHÆNICOPTERUS.—L.

373.—*P. Europæus*.—*P. ruber*, L.—*Bug Huns*, H.—*Rajah Huns* of some.—*Flamingo*.

The *Flamingo* is found throughout the Peninsula, in large rivers and tanks, though not a very common bird. I saw it in the greatest abundance in the large Chilka lake, on the low flat islands of which I have seen many hundreds congregated together. It feeds on vegetable matter, and minute water insects, &c. and much gravel is in general found in its stomach. It is tamed, and kept at Hyderabad by some of the nobles of that city, and fed on grain of various kinds. I think Swainson is perfectly justified in placing this bird among the ducks, from its external structure alone, and I see that its internal anatomy fully confirms this view. In fact the natives of India recognize its alliance with this family, by calling it *Heron Goose* or *King Goose*.

Bill pink, black at the tip ; legs pale rose coloured ; irides pale golden yellow. Length $3\frac{1}{2}$ to 4 feet.

374.—*P. minor*.—*Lesser Flamingo*.

I have seen a flock of this bird at the Jaulnah tank, last cold season, and am informed by Shikarees, that it pays an annual visit here, about Christmas.

SUB FAMILY ANSERINÆ.

GENUS ANSER, *Antiq.*

375.—*A. Indicus*, Lath., Gould Cent. Him. Birds.—Indian or *Barred-headed Goose*.

This *Goose* is not so common in Southern India, as it appears to be in Bengal, and the more northern Provinces. I have seen it in pairs in August, within a few miles of Cape Comorin, and once or twice in flocks of 15 or 20 in large tanks, on the central table land.

GENUS DENDROCYGNA, Sw.—*Tree Ducks*.

376.—*D. Amsuree*.—*Mareca Amsuree*, Sykes' Cat.—*Anas arcuata*, Horsf. Java.—*Sillie*, H.—*Whistling Teal* of Europeans.

As my specimens agree exactly with the description of Sykes, of his *M. Amsuree*, and also the description in Mr. Elliot's Catalogue, I think it may be considered distinct from the Javanese bird. It is found in numerous flocks, in various parts of the country, most abundant, perhaps, in the wooded districts, frequenting tanks, and often seen perched on the boughs of trees that overhang the water. I have not seen its breeding places.

Length about 18 inches; bill to front $1\frac{1}{2}$; tarsus $1\frac{5}{10}$; centre toe and claw $2\frac{3}{4}$; wing 8; tail $2\frac{1}{2}$; bill and legs plumbeous; irides brown; eyelids, bright yellow. It is not esteemed good eating.

377.—*D. major*.—New species?—*Large Whistling Teal*.

I am strongly inclined to consider this as a distinct species from the last. It differs in its larger size, in the whole head, neck and under parts, being rufous or chestnut, and not so dark in the belly as the former bird. The upper tail coverts are yellowish white, instead of deep chestnut. There is a blackish line down the back of the neck from the nape. The tip of the head is deep chestnut instead of brown, and there is a broad patch round the centre of the neck, in which the feathers are somewhat hackled or lanceolate, whitish at the tip, and blackish at the base. The feathers of the loins are highly elongated, chestnut on one side of the shaft, and creamy white on the other side, broadly edged with dusky.

Length 20-21 inches; wing $9\frac{1}{4}$; tail $2\frac{1}{4}$ inches; tarsus 2; bill at front $1\frac{5}{10}$ this; centre toe and claw $3\frac{1}{2}$.

378.—*D. ? girra*.—*Anas girra*, Gray and Hardw., Ill. Ind. Zool.—*A. Coromandelica*.—*Geerjuh*, H.—*Cotton Teal* of Europeans in India.

This pretty little bird is not very common in Southern India, and like the last, abounds most in the more wooded districts, and it is said to breed in some of the forests of the western coast. It has a peculiar

changing note, not unlike that of the *Grouse*, which it generally keeps up whilst flying. It is found both in pairs and flocks—sexes alike.

Irides bright crimson; bill black; legs greenish ochrey yellow, blackish in some. Length 13 inches; weight 9 ounces.

This bird, by its bill, appears to approach the *Dendronessæ* of Swainson.

378. bis.—*D. affinis*.—New species?—*Girree*, II.

This species or variety, is mentioned in Mr. Elliot's notes as differing from the last in the permanent want of the collar in both sexes and at all ages.

Length nearly 14 inches.

GENUS PLECTROPTERUS, Leach.

379.—*Pl. melanotos*, Steph.—*Anas Melanotos*, Gmel.—*Nooktah*, II. also of the Mahrattahs.—*Bronze-backed Goose*—*Comb-Duck*, (Sykes) of the Residents in the Madras Presidency.

This splendid bird is found all over India, in tanks and rivers, though not very abundant. It breeds during the monsoon in most of the wooded districts, and as I am informed, in long grass, near rivers or tanks. The female is much less than the male, and wants the large protuberance at the base of the bill. It feeds on various seeds and vegetable matters—also on paddy, jowaree, and other grains. The flesh is hard, and not held in much esteem. Length of male 34 inches; wing 16; tarsus 3; bill straight to gape $2\frac{3}{4}$; height of protuberance above 2 inches, from the edge of the mandible, length of do. at the centre nearly 2. Female from 26 to 28 inches long.

Irides dark brown; bill and protuberance black; legs greenish plumbeous; weight nearly 6-lb.

SUB FAMILY ANATINÆ, Sw.—*River Ducks*.

GENUS MARECA, Leach.—*Widgeon*.

380.—*M. fistularis*, Steph.—*Anas Penelope*, L.—*Common Widgeon*.

Common in the cold weather throughout India in the rivers and tanks, found in large flocks.

Irides dark brown; bill light plumbeous, black at the tip.

GENUS ANAS, L.

SUB GENUS CHAULIODUS, Sw.

381.—*C. strepera*, Sw.—*Anas strepera*, L.—The *Gadwall*.

Not so numerous as the last, but by no means rare—only found in the cold season.

Irides brown ; bill blackish, reddish at the sides and lower mandible ; legs and feet ochrey yellow.

SUB GENUS ANAS.

382.—*A. clypeata*, L.—*Tredaree*, H.—*Shoveler*.

Common over all India, in flocks during the cold weather.

Irides yellow ; bill black ; legs orange ; bill of female brown, reddish beneath.

SUB GENUS BOSCHAS, Sw.

383.—*B. circia*.—*A. circia*, L.—*Garganey Teal*.

Common throughout the cold weather, being one of the first to arrive in the country, sometimes before the end of September.

Irides brown ; bill black ; legs greenish plumbeous.

384.—*B. crecca*, Sw.—*A. crecca*, L.—*Common Teal*.

Common along with the last.

SUB GENUS DAFILA, Leach.

385.—*D. caudacuta*.

Tolerably abundant towards the more northern parts of the Peninsula, rare in the south, found in large flocks.

Bill plumbeous, with a black line down the centre, also at edges ; legs plumbeous.

Irides dark brown.

GENUS TADOMA, Leach.

386.—*T. rutila*, Steph.—*A. casarca*, L.—*Soorkhab*, H.—also *Chukwa*.—*Ruddy Shieldrake*.—*Brahminy Duck* of Europeans.

This large duck is, like the last one, less common towards the south, than in the more northern parts of the Peninsula. Is frequently seen in pairs, or small parties of 4, 5 or 6, but occasionally, as in the Chilka lake, in numerous flocks of some hundreds. Only found, as far as I can learn, in the Peninsula, during the cold weather. Colonel Sykes, however, appears to think that they are resident in India, throughout the whole year. Found much on rivers. Mr. Elliot in his notes says "Found in pairs, often several pairs together, shy, uttering a peculiar deep note which has a strong resemblance to deeply intonated *ā-oung*." The Hindoos consider them the models of conjugal tenderness. The flesh is held in no esteem in this country.

Irides dark brown; bill and legs black.

387.—*T. ? pæcilorhyncha*.—*A. pæcilorhyncha*, Gmel.—*Gurm-pace*, H. *Spotted-billed Duck*.—*Large Grey Duck*.

This fine duck is most common in the more wooded parts of the country, and is a permanent resident, breeding in retired places and marshy spots, among the jungles, during the hot weather.

Irides brown; bill black, yellow at the tip, red at the base; legs deep red. Length 2 feet to 26 inches; tarsus $2\frac{1}{4}$; weight about 3-lbs. Is excellent eating. I am by no means certain, that it is a true *Tadomer*, being perhaps a species of *Boschas*, or *Chauliodus*; but the elevation of the bill at the base, has induced me to consider it as a *Tadomer*. I on one occasion found a couple of small fish in the gizzard of this *Duck*, besides vegetable matter and gravel.

368.—*T. ? cayophyllacea*.—*Pink-headed Duck*, Lath.

Though I have not yet seen this *Duck*, I venture to include it in my present Catalogue, from the concurrent testimony of several Shikarees, who described it, so as to leave no doubt in my mind of its being the species named as above. It is said to be an occasional, though very rare visitor to the rivers and tanks of the country, about Jaulnah, during the cold weather only.

SUB FAMILY FULIGULINÆ, -Sw.

GENUS FULIGULA.

389.—*F. rufina*, Stephens.—*Red-headed Pochard*.

Not very common in the Peninsula, generally in small parties in the cold weather.

Irides deep yellow.

390.—*F. cristata*, Steph.—*A. fuligula*, L.—*Tufted Duck*.

Tolerably common throughout the Peninsula, during the cold weather. It is one of the latest to quit the country, and I have on one occasion found a single one in the month of June, in a tank near Hydrabad.

Irides bright yellow; bill plumbeous; legs blackish. Length 19-20 inches.

391.—*F. nyrocu*.—*A. leucophthalmos*.—*Bechstein*.

Rare in the Peninsula, generally in pairs, or very small parties in tanks. Irides greyish white. These 3 last species dive remarkably well.

FAMILY COLYENBIDÆ.—*Grebes*.

GENUS PODICEPS, Lath.

392.—*P. Philippensis*, Steph.—*Choorakah*, II. ?—*Indian bay-necked Grebe*.

Common in the tanks all over India, even in those which dry up early in the season. Feed on various water insects, &c.

Irides ochrey yellow. Length $9\frac{1}{2}$ inches.

392, *bis*.—*P.* ——— ?—*Lesser Grebe*.—*Puu-uloobee*, H. ?

I have hitherto not procured this little species of *Diver*, which is mentioned in Mr. Elliot's Catalogue, though without any description, but I have seen it on several occasions, in grassy tanks, and among weeds. It appears much smaller than the common one.

FAMILY PELECANIDÆ.

GENUS PLOTUS, L.—*Darter*.

393.—*P. melanogaster*, Gmel.—*Banwah*, H.—*Darter* or *Snake bird*.

Not very uncommon in the Northern Circars, and in other districts where tanks abound. Feeds on fish chiefly, swims and dives with great rapidity, and as Colonel Sykes remarks, has the faculty of being enabled to swim with the whole of its body under water, the long head and neck being alone visible, looking like a snake.

Length about 3 feet; tail $9\frac{1}{2}$; bill front $3\frac{3}{4}$ ths.

GENUS CARBO, Mayer and Swains.—*Cormorant*.

394.—*C. Javanicus*, Horsf.—*Phal. Africanus*?—*Joghrabee*, H.—vulgo *Pun-kowa*—i. e. *Water crow*.

Very common in all the tanks and rivers of India. Feeds on fish, and is very voracious.

Irides crimson; bill black, reddish at base beneath; legs black.

I may state that I have specimens, shot in company with many others of the same plumage, which have the wing coverts and scapulars blue grey, margined with black, and in the belly and neck, having much white in their plumage, mixed with dusky blackish.

Length 23; tail 6 inches; bill at front $1\frac{1}{10}$ th.

395.—*C. Cormoranus*.—*Pelicanus Carbo*, L.—*Gho-ghur*, H.

This is much more rare than the last. I have only seen it on the wooded Bhowany river, at the foot of the Neilgherries, and once or twice in the northern part of the table land, in large tanks. I have seen it in the month of June, as far inland as Hydrabad, so it most probably remains here the whole year and breeds. Mr. Elliot mentions it in his Catalogue, and I learn from him that it is far from being uncommon in parts of the Southern Mahratta Country, and that it may sometimes be seen in considerable numbers, sitting on trees in the neighbourhood of tanks.

Length 2 feet 10 inches; bill at front $2\frac{1}{4}$; weight $4\frac{1}{2}$ lbs.

GENUS PELICANUS, L.

396.—*P. onocrotalus*, L.—*Hawaseel*, H.—The *Pelican*.

The *Pelican* is tolerably common in many of the tanks all over the country, even very far inland, occasionally perches on lofty trees.

SUB FAMILY LARIDÆ.—*Gulls and Terns*.

GENUS STERNA, Swains.

SUB GENUS STERNA, L.—*Sea Swallow*, or *Tern*.—*Kaghuzee*, H.

397.—*S. melanogaster*, Temm.—*S. acuticauda*, Gray and Hardw., Ind. Zool.

This *Tern* I have found all over the country, frequenting tanks, and more especially rivers.

398.—*S. similis*, Gray and Hardwicke, Ill. Ind. Zool.

Found in the same localities as the last, and still more common and numerous.

Length $11\frac{1}{2}$ inches; wing $9\frac{1}{4}$; tail $3\frac{3}{10}$ th; bill at front $1\frac{1}{10}$ th: tarsus $\frac{9}{10}$ th; bill dark lake colour; feet and legs black.

399.—*S. Seena*, Sykes.

Spread throughout all the Peninsula, but less common than the last.

Bill bright yellow; legs red. Length 17 inches; wing 11; tail $8\frac{1}{2}$; bill at front $1\frac{1}{2}$.

400.—*S. anglica*, Montagu.—*Marsh Tern*.

Common all over the country.

Length about 16 inches: but it varies a good deal in size: of one 16 inches long. the wing is $13\frac{1}{2}$, $2\frac{1}{2}$ inches beyond the tail, which from base is nearly 6; bill and tarsus black.

401.—*S. minuta*, L.

I have seen this pretty little *Tern* most abundant in the west coast, at the mouths of rivers, but have also met it above 200 miles inland.

Length nearly 9 inches; wing $6\frac{1}{2}$; half an inch beyond the tail, which is nearly 3; bill at front $1\frac{2}{10}$; yellow, dusky at the tip; legs orange; tarsus $\frac{7}{10}$ ths.

402.—*S. ———*.—New species?

Descr. Head and back of neck sub-crested deep glossy black, plumage above light grey; beneath white; tail much forked; lateral feathers white; bill yellow; legs black.

Length $17\frac{1}{2}$; wings $12\frac{1}{2}$; 1 inch beyond tail; tail $6\frac{1}{2}$; bill (at front) $2\frac{3}{10}$ ths; tarsus 1 inch.

I have only found this very elegant species on the sea coast, on the west of India, at the mouths of rivers.

403.—*S. ———*.—New species?

Back, wings and tail pale grey; rest of body white, except a blackish grey streak through the eye; head and neck with a tinge of grey.

Length $14\frac{1}{2}$ inches; wing 11; tail 4; bill at front $1\frac{3}{10}$ th; tarsus $1\frac{1}{2}$ bill black, within orange red; legs and feet dusky sienna reddish.

This species appears tolerably common on the east coast of the Peninsula, near Madras.

404.—*S.* ———.—New species.

Descr.—Head and nape blackish ; feathers edged with white ; body above grey, beneath white ; bill deep lake red ; legs sienna.

Length 11 inches ; wing $8\frac{1}{2}$; tail 3 ; bill at front 1 inch.

GENUS THALASSITES, Swains.

405.—*T.* ———.—New species ?

Descr.—Head and upper part of the neck glossy black, above light grey ; beneath, and tail white ; bill orange red ; legs black.

Length 21 inches ; wing 16, reaching 3 inches beyond the tail, which is $5\frac{1}{2}$; bill at front $2\frac{6}{10}$ th ; tarsus $1\frac{8}{10}$ th.

I have found this large *Tern* most abundant on the west coast of India, at the mouths of rivers, but also far inland, frequenting tanks. The young bird differs in the head being spotted white and black, instead of being pure black.

GENUS LARUS, L.—Gull.

406.—*L. brunnicephalus* ?.—New species ?.—*Brown-headed Gull.*

Descr.—Hood pale ashy brown, terminated by a darker edge ; mantle and wings light grey ; the rest of the body pure white ; bill and legs deep lake red ; a half circle of white feathers round the back part of the eye.

Length 19 inches ; wing 14 ; tail nearly 6 ; bill at front $1\frac{1}{2}$; tarsus 2.

I have found this *Gull* common on the west coast of India, and also inland above 200 miles, frequenting rivers and tanks. A *Gull* which corresponds exactly in size with this one, and which I have usually seen in company with it is probably the young bird. It differs in wanting the brown hood, and in the tail being broadly tipped with black.

407.—*L.* ———.—New species ?

I possess only a young specimen of this *Gull* in the usual mottled plumage, so shall content myself with giving its measurements. It was shot 200 miles inland.

Length 2 feet ; wing 18 inches ; tail 8 ; bill (front) $1\frac{8}{10}$ th ; tarsus $2\frac{6}{10}$ th ; bill and legs yellowish.

I have seen other species of *Gull* on the sea coast, but not having procured specimens, refrain from noticing them at present.

I have now brought to a conclusion this imperfect Catalogue, the chief object of which has been an enumeration of all the birds found in Southern India; the few brief notes I have added having been hastily drawn up, without method, to relieve the monotony of a bare list of names. I purpose in a future, and I hope, an early number, to add a supplement, containing the description of a few additional species I have obtained since the first parts of the Catalogue were printed—and also to correct several errors of nomenclature, and to add some brief additional notes on the habits and geographical distribution of a few of the species, which more recent and extended observations have enabled me to offer.

The specimens on which my Catalogue was founded, are now on their way home to a distinguished Ornithologist, and as soon as they are examined, and identified by him, I will in another supplement give the result of his examination, and a synopsis of all the species with their correct names and synonyms. By way of rendering this part more generally useful, I may probably also add a synopsis of the different genera found in India, and a brief description of all the species, so that it may serve as a text book for the Peninsular birds, and supply to the ornithologist in this country, the want of the numerous bulky and ill-compiled works of reference, which often perplex as much as they inform.

I trust also to be able to add to this, through the kindness of Walter Elliot, Esq., a list of the names of many of the birds in several of the native languages, and in the native characters, by which collectors may be much facilitated occasionally, both in the acquisition and identification of various species. At a future period, I hope that my observations on the habits and manners of many of the Indian birds may be so far extended as to enable me to publish a much more full and enlarged account than I am now able to attempt, and illustrated by coloured figures of many of the unfigured species. To enable me, however, to effect this, I look confidently for the assistance and co-operation of other observers, without which it will be impossible to present any thing like a tolerably complete history of Indian Ornithology; for, from the nature of a tropical climate precluding much or constant exercise on the open air, and the necessary occupations of most of the residents here, no one individual can ever expect to give from his own observations a faithful transcript of the habits and manners of even a limited number of the birds; and it is only from a series of detached observations, and from many individuals co-operating together, that such a much wished for result can be obtained.

With this view, I earnestly solicit any of the readers of this Catalogue, (who may have the opportunity and inclination), to forward me any observations they may make, and let them not deem the smallest scrap of information too trifling to send. I would more particularly request further intelligence regarding the nidification of the Indian birds, of which so little is known, their various notes, food, and manner of feeding, times of appearance and disappearance of migratory species, names in any of the native languages, and any tales, proverbs or superstitious ideas the natives may have concerning them. There are also a few desiderata which I shall here enumerate, and any individuals who may have it in their power to give any information regarding them, will receive my best thanks.

No 6.—Specimen of the large *Fishing Eagle* of the Chilka lake, which I suspect may be the *Hal. ichthyætus*, No. 8 of the Cat.

No. 34.—Specimen and descriptions of the *Besra*.

Specimen and description of the *Kandesrah* of Indian Falconry, a species of *Sparrow-hawk*, I suspect, nearly allied to the *Besra*.

Specimen or description of the *Gorbesrah* which I suspect is the same as my No. 36, a species of *Goshawk*, differing in its smaller size from the *Baz* or true *Goshawk*.

No. 268. *bis*.—Whether the *Ortygis Taigoor*, of Sykes, is a distinct species, or the young bird of the *O. pugnax*.

No. 282.—Any information regarding the *Black Florikin*, its time of appearance in different districts, at what season it is seen in a state of change, &c. &c. &c.

II.—*On the General Application of Low Steam Power to all Vessels, instead of Sails.*

It is very surprising that though so much has been done in applying Steam Power to move vessels at high speeds for the conveyance of passengers, it does not appear that as yet, any considerable trials have been made of it, for the conveyance of merchandize at moderate rates. The quantity of fuel and power of engine requisite to propel a ship at high speeds is so great, that for a voyage of any considerable length, the vessel is almost taken up with them, leaving so little room for merchandize that it will not answer, except principally employed in the transport of passengers. But this is no reason that it should not answer to use

steam for the transport of merchandize at low rates, and the subject is well worthy of investigation. The question is, whether merchandize can be transported at the *rate* it is at present conveyed by sailing vessels, cheaper or safer by steam; or whether it can be conveyed at the same *cost* as in sailing vessels, but quicker by steam.

It seems strange to conclude, that, because it will not answer to use steam for the common purposes of commerce at high speeds, therefore it will not be advisable to use it at moderate rates. On land, horses are used at high speeds for passengers, and at low rates for goods, and on examination it may be found to be just the same with Steam Power at sea. The two cases are in effect precisely similar; in moving land conveyances the resistance at higher speeds does not increase, but animal power rapidly diminishes, which is the cause of the rapid increase of cost. In steam vessels, there is indeed no less of power at higher speeds, but the resistance to a vessel moving through the water rapidly increases, and hence the effect is the same as in land conveyance; viz. a rapid increase of expence. In the one case, there is no increase of resistance, but a decrease of power as the speed increases; in the other there is no decrease of power, but there is an increase of resistance. Hence upon the first glance at the subject, it would appear probable that as it is found to answer on shore to use horses for passengers at high speeds and for goods at low ones, so it may be found in the case of steam afloat.

The best way of attempting to arrive at a sound conclusion in this case, is, to compare the actual cost of the two modes from the data we have, and then to consider what further important points there are in the matter, which it is not so easy to make subjects of calculation.

But it may be well first to consider the leading principles, which affect the motion of vessels through water. It is well ascertained that up to about 8 knots, an hour, the resistance of water to vessels increases more rapidly than in the proportion of the square of the velocity; that is, with a double velocity resistance is more than four times as great, with a treble velocity more than 9 times as great and so on. Hence to move a vessel a certain distance, it takes more than four times as much fuel and more than four times the power of engine to do it at a double speed, and more than 9 times as much fuel and steam power, to do it at three times the rate. This appears to hold good up to a certain speed, about 8 knots an hour, after that the resistance does not increase quite so rapidly, but still in rather a greater proportion than the velocity. Hence if a vessel can carry sufficient fuel to go 4000 miles at the rate of ten knots she can carry enough to go about 12,000 at 5 knots, and more than 50,000 miles at $2\frac{1}{2}$ knots. But further, as in going at the double speed the engine must

servations, appears to have been $29.02 + 30.025$ (an index correction which Dr. Puist gives as that of the barometer with which the observations were made) = 29.048 English inches. The height above the sea is thirty-five feet, and the latitude 19° N.

The mean height of the barometer in the year 1843, derived from observations at every second hour, appears to have been 29.803 ; the elevation being thirty-five feet above the sea. This is less than what is generally received as the average height of the barometer in the same latitude. From the careful comparison described in Dr. Buist's report as having been made of the standard barometer with several other barometers, there seems great reason to believe that the mean height shewn by it must be a near approximation to the true mean atmospheric pressure in the year 1843 at Bombay.

The mean height of the barometer in the four clouded months of May, June, July, and August, is 29.667 ; and in the four clear months of November, December, January, and February, 29.921 . The mean vapour-pressure in the same seasons is respectively 0.904 and 0.622 , and the gaseous pressure consequently 28.760 and 29.298 . There is, therefore, a difference of 0.535 of gaseous pressure in these two seasons, and there is also a mean difference of temperature of 5.84° degrees. The lowest pressure corresponds to the highest temperature, and *vice versa*: if we may allow ourselves to make a rough proportion drawn in a single case, we may estimate a decrement of 0.1 inch of pressure to an increment of 1 Fahrenheit. The highest temperature and lowest pressure is accompanied for nearly the whole of its period by the S. W. monsoon, or a wind blowing from the sea. The lowest temperature and the highest pressure is accompanied by the N. E. monsoon, or a wind from the land. The difference of the gaseous pressure in the two seasons is partially marked in the barometer by an opposite difference in the tension of the vapour, so that the barometric difference between the two seasons, though still distinctly manifest, is less than the difference of gaseous pressure.

The analogy of the annual and diurnal variations, considered in respect to the explanation which has been attempted of the latter, is too obvious to be dwelt upon. The decreased gaseous pressure in the hot season is occasioned by the rarefaction of the air over the land whilst the sun is in the northern signs, and its consequent overflow in the higher regions, producing a return-current in the lower strata; and the increased pressure in the cold season is occasioned by the cooling and condensation of the air whilst the sun is on the south side of the equinoctial, and its consequent reception of the overflow in the upper strata from the regions

which are then more powerfully warmed, and which is but partially counteracted by the opposite current in the lower strata.

In concluding this communication, I beg respectfully to submit to the consideration of the eminent meteorologists here present, that it is very important towards the progress of this science, that the propriety (in such discussions as the present) of separating the effect of the two elastic forces which unite in forming the barometric pressure should be either admitted or rejected. The very remarkable fact recently brought to our notice by Sir James Ross, as one of the results of his memorable voyage, that the mean height of the barometer is nearly an inch less in the latitude of 75° S. than in the tropics, presses the consideration of this point upon our notice; for it is either explained by the diminution of the vapour constituent in the higher latitudes, which diminution appears very nearly to correspond to the decrease of barometric pressure observed by Sir James Ross, or it is a fact unexplained, and I believe hitherto unattempted to be explained, on any other hypothesis, of so startling a character as to call for immediate attention.

*Second Supplement to the Catalogue of the Birds of
Southern India, by T. C. JERDON, ESQ.*

Madras Medical Establishment.

A considerable addition to the Ornithological Fauna of Southern India, and a few important corrections form the present article. Those species which are introduced here for the first time as inhabitants of the Peninsula, are marked with an asterisk.

* No. 1. bis—*Vultur Indicus*, Scopoli and Latham—not of Sykes', nor of Jerdon's Catalogue—*V. tenuirostris*, Hodgson.

This large species has been hitherto overlooked by me. Mr. Blyth appears to think that *V. Indicus* Temm. is a synonym of *V. fulvus*, to which he now refers my *V. Indicus*, and that *V. Imperialis* T. is a synonym of the present bird. From the dimensions however assigned to *V. Imperialis*, viz. 40 inches (French measure) I am inclined to believe that Temminck's *Indicus* refers to the same bird as that of Scopoli

and Latham, and that *Imperialis* is either a synonym of *fulvus*, or a new species to which Sykes' and my bird must be referred.

Cat. No. 6.—*Pandion lineatus* is the young state of *Haliæetus Macei*.

Cat. No. 9.—*Aquila chrysaetos* turns out to be *A. imperialis*—identified as such by Sir W. Jardine, to whom I sent a specimen.

No. 10. Cat.—*A. bifasciata*—a distinct species abounding towards Arracan, and the N. E. portion of Bengal.

No. 11. Cat.—*A. Vindhiana*—Some time ago I suggested the probability that this was the European *A. nævia*, and Mr. Blyth has ascertained that it is so.

No. 12. Cat.—*Nisaetus niveus*—This is not the *niveus*, but the *N. grandis* of Hodgson, now considered to be identical with *Aquila Bonelli* of Europe.

12 ter, Sup. Cat.—The Neilgherry Black Eagle was described by Hodgson in the Journal of Asiatic Society as *A. pernigra*, and when I described it I had not then access to the volume containing this account. Some time afterwards I sent specimens to the Asiatic Society of Calcutta under the generic name *Ictinaetus*, intending to have given its character at an early opportunity. Mr. Hodgson however had again forestalled me, having sent a paper to the Asiatic Society in which he proposed the name of *Heteropus*. But as this name has been previously (twice indeed) employed in Zoology, perhaps Mr. Hodgson will adopt the name here suggested. Mr. Gray in his list of Raptores in the British Museum makes this fine eagle synonymous with *Falco Malaiensis*, Reinwardt, *Aquila Malayana*, Cuvier.

* 15 bis—*Baza lophotes*, *Falco lophotes*, T. *Baza Syama*, Hodgson, *Lophotes Indicus*, Lesson and Swainson.

I shot a single specimen of this curious bird in a grove at Davroypilly in the Nellore district, near the range of Eastern ghauts. It is rather an unexpected addition to the Fauna of Southern India, though not very uncommon in Bengal.

No. 16. Cat.—The common Kite of India is now supposed to be the European *Milvus ater*.

Cat. No. 20.—This small eagle is now considered to be the European *Aquila Pennata*.

No. 20. bis.—Suppl. Cat.—My *Spizaetus punctatus* is considered by Mr. Blyth to be the young of *S. hastatus*, Lesson, and is an aberrant species of *Aquila*.

No. 21. ter.—Suppl. Cat.—This is, as I suspected, the *Buteo albidus* of French authors, and I have identified it as the young state of *Hæmatornis undulatus* of Vigors.

No. 23. Cat.—Common Indian Harrier. This is the *Circus Swainsonii* of A. Smith, found both in Africa, and the East of Europe, as well as in India.

No. 29. Cat.—My *Falco Shaheen* has been previously named, it appears, by Sundevall, a Swedish Naturalist, as *Falco peregrinator*—*F. Aldrovandi* T. is a very distinct, much smaller, species.

* No. 30. bis.—*Falco respertinus*.—I shot a single specimen of the Red-legged Falcon of Europe on the Neilgherries in January, 1840, and have seen another killed at Nellore. Mr. Blyth has also obtained it at Calcutta, and it is not very uncommon on the Himalayas.

No. 32. Cat.—The prior name for the Shikra is *Accipiter badius*.—It is also *F. Dussumierii* T.

No. 34. Cat.—*Accipiter besra*.—The bird described at No. 35 is an adult *Besra*—it is most probably the *A. Dussumierii*

of Sykes' Cat.—Mr. Strickland writes me that he considers it to be the young state of *A. virgatus* of Temminck, but I am convinced that this is a mistake.

No. 38. Cat.—*Strix longimembris* is probably the *S. candida*, of Tickell.

No. 40. Cat.—Is the *Noctua hirsuta*, Tem., and *Ninox nepalensis* of Hodgson.

* No. 41. bis.—*Urrua cinerea* Blyth—perhaps *Scops coromandus* of the older authors. I have procured specimens of this fine owl near Nellore.

No. 42. bis—Sup. Cat.—*Bulaca monticola*—This is the *B. newcarensis* of Hodgson.

No. 43. Cat.—*Scops Javanicus*.

From information received by me lately from Mr. Blyth it appears probable that the Scops Owl of Malabar and the West Coast may yet prove distinct from the Malayan *S. lempigi*, though it is certainly very closely allied. Should it prove so, I would propose the name of *malabaricus*.

* 43 bis—*Scops pennata*—Hodgson. The first specimen I saw of this pretty little owl was one found dead close to a house I then occupied in Madras. Mr. Ward afterwards sent me a specimen from the West Coast, and I have since obtained it from the forests of the Eastern Ghauts. It varies remarkably in its plumage, one state being so extremely similar to the *Scops sunia* of Hodgson, that I at one time considered it identical. Mr. Blyth however informs me that he considers them distinct.

Dimensions.—Length about $7\frac{1}{2}$ inches, wing $5\frac{1}{2}$, Tail $2\frac{1}{2}$, Tarsus $\frac{1}{2}$ ths.

* 43 ter—*Scops griseus*—new species? *S. lettia*, Hodgson, var.

I have procured several specimens of a rather large Scops Owl from the forests of the Eastern Ghauts, which very closely resembles that named *lettia* by Hodgson, but which is smaller and differs otherwise according to Mr. Blyth. I add a brief description. General tone of plumage, light cinereous grey, more or less tinted in parts with fulvous, and mottled, marbled, and streaked with various shades of brown—under plumage very light—the feathers centred dark—feathers of the tarsus creamy white. The Malabar Scops Owl, which nearly approaches it in size, differs in the prevalence of a strong rufous tinge, more especially in the plumage beneath. I have now seen many specimens from the Eastern Ghauts, none of which have any tendency to that marked rufous hue.

Length 10 inches, wing about 6, Tail 3.

No. 46. Cat.—The *Noctua cuculoides* of my Catalogue is quite distinct from the Himalayan bird, and is the *Noctua radiata* (Tickell.) *N. perlineata*, Hodgson.

* No. 46. bis—*N. spadicea* (T), *S. castanoptera*, Horsf.

The Southern provinces of India and Ceylon appear to possess a distinct species which from its prevalent rufous hue appears to be the species mentioned above. I have procured it from Travancore and the southern provinces of Malabar, and Mr. Blyth has seen specimens from Ceylon.

*No. 51. bis.—*Lanius cristatus* L., after Edw. pl. 54.—*L. melanotis* Val.—*L. ferrugiceps*, Hodgson. I had overlooked this Shrike as the young of *L. Hardwickii*, but Mr. Blyth pointed out to me that it was quite distinct, and identified it as above. Common throughout the peninsula, frequenting low jungle, gardens, and hedgerows. It is also *L. phoenicurus*, Pallas—apud Latham.—*L. superciliosus*. var. A., Lath.

No. 54.—The common Indian Swallow Shrike is the *Ocypterus ruficenter* of authors.

No. 55.—It appears that the common King Crow of India will stand as *Dicrurus macrocerus*, Vieillot.—It is also *D. Indicus* Stephens, and *D. albirictus* Hodgson, &c.

No. 57.—If the name *Macrocerus* be rightly applied as above, then my bird will require a new name, and Lord Arthur Hay has, in a Monograph of the *Dicruridæ*, given it the title of *longicaudatus*.

*No. 59. bis.—I have lately procured several specimens of a racket-tailed Drongo from the jungles of the Eastern Ghauts, which appear to differ decidedly from the Malabar bird. As Lord Arthur Hay has been engaged in examining this family I gave specimens to him, and he distinguishes this species by the name of *Edolius dentirostris*.

*No. 59. ter.—*Edolius orissæ*.—Specimens of the racket-tailed Drongo, procured by Lord Arthur Hay from the jungles of Goomsoor, appear also to differ specifically from the other known species, and that gentleman has applied the above name to this one.

For ample details respecting the differences of these and the other species, vide the Monograph of this family by Lord Arthur Hay, in the present* number of this Journal.

*No. 58. bis.—*Dicrurus criniger* (T.), *Corvus hottentotus* L., —*Ed. Chrishna*, Gould. *Chibia asiá*, Hodgson. *Criniger splendidus*, Tickell. *Hair-crested Drongo*.

Captain Roberts of the 36th M. N. I. obtained this handsome species in Coorg many years ago, a fact which he communicated to the then Editor of this Journal, some time after the publication of my Catalogue. Lieut. Blake of the same Regiment also informed me that he had shot it in that locality. I have quite recently obtained a specimen from the Eastern Ghauts. It must however be very rare in Southern

* The departure of this gentleman for Calcutta has delayed the appearance of this article.

India, as I have never seen a specimen among the numerous collections from the West Coast which I have examined. It appears to be not uncommon about Calcutta.

No. 60.—*Ceblepyris papuensis*—It appears doubtful if this be the true *papuensis*—if not, it is perhaps the *Graucalus Macei* of Lesson.

No. 61.—My bird turning out to be distinct from *Ceblepyris fimbriatus*, will stand as *C. Sykesii*, Strickland.

*No. 61. bis.—The *Ceblepyris melaschistos* (Hodgson), *Lanius silens* Tickell, has been obtained from Goomsoor.*

*No. 65. bis.—*Phanicornis roseus*. *Muscicapa rosea* V. *Phænic. rubritinctus*, Blyth. I had overlooked this bird as the young of *P. flammeus*, till Mr. Blyth pointed out its peculiarities. It is found in the forests of the West Coast, though but sparingly, and appears more common about Calcutta.

*No. 69. bis.—*Brachypus xantholemus*—new species—Yellow throated Bulbul—*Konda Poda pigli* Tel—i. e. Hill bush Bulbul.

I have recently obtained specimens of this well marked species of *Brachypus* (hodie *Pycnanotus*) from the denser portions of the forests of the Eastern Ghauts, to which it at present appears confined, as I have not seen specimens from any other part of the country. Description—Head, face and neck, yellowish green, chin and throat pure yellow—upper plumage gray with a slight tinge of green here and there, most marked on the upper tail coverts; wings dusky, edged with yellow green, which gives that tinge to the whole wing when closed—Tail dusky, the feathers edged with yellow green, and except the centre ones tipped with white—breast gray, paling to whitish on the lower part of the abdomen: under tail coverts pure yellow. Bill and legs black—length

* Since writing the above, Mr. Blyth informs me that Mr. Strickland considers this bird to be the true *C. fimbriatus* of Temminck.

about 8 inches—wing $3\frac{6}{10}$ —tail $3\frac{6}{10}$ —bill at front $\frac{6}{10}$ —tarsus $\frac{6}{10}$ ths—Irides said to be red—(I have not as yet seen fresh specimens myself.)

No. 69.—It is possible that this bird may be the *Brachypus gularis* of Gould, P. Z. S. 1835, from Travancore, as it agrees with the description except as to the throat, the color of which however may have been accidentally omitted, as the specific name is derived therefrom.

No. 71.—This must be the *Chloropsis malabaricus* auct, the true *aurifrons* not being found in the peninsula.

No. 72.—Mr. Blyth considering that the specimens I had sent him of this *Chloropsis* did not agree exactly with the description of *Cochinsinensis*, proposed the specific name of *Jerdoni*. Mr. Strickland however appears to think that I had rightly identified it. On a minute examination of the descriptions in Latham, and other authors, I am by no means certified of the correctness of this application, and as notwithstanding the labours of Sir W. Jardine and other naturalists, considerable confusion appears to exist among the species of the interesting group, I shall here add the result of my investigations.

1. *Chloropsis aurifrons*—*C. malabaricus*, apud Jard. and Selby—s. pl. 5, Ill. Orn., afterwards corrected in Synopsis of species in the 2d vol. s. pl. 100—*Hurruwa Bee Eater*, Lath, but not var. A., which appears to be the next species—*Phyllornis aurifrons* T. P. C. 484. 1—not *C. aurifrons* apud Jerdon, Catal. Not found in Southern India.

2. *Chl. malabaricus* (Lath)—*yellow fronted Thrush*—do. No. 50—*Hurruwa Bee Eater*, var. A., not *malabaricus* of Jardine and Selby, Synopsis, nor of Blyth J. A. S., nor of Eyton P. Z. S.—*C. aurifrons* apud Jerdon, Cat. No. 71—*C. caemarkhynchos* (misprint for *gampsorhynchos*) apud Tickell and Blyth J. A. S.

cochinsinensis of Latham, the Verdin de la cochinchine of Buffon, and that Mr. Blyth's name will stand good. It is dispersed over all the southern part of India, but I have as yet seen no specimens from any of the Malay countries, nor has Mr. Blyth procured it elsewhere.

4. *C. Cochinsinensis* [Lath.] Jardine and Selby, and others, *C. Malabaricus* apud Blyth, J. A. S., and Eyton, P. Z. S.—*Phyllornis Malabaricus* Temm. P. C.—*C. mystacalis* Sw.?? I have not seen this except it be identical with Swainson's *C. mystacalis*, a specimen of each sex of which, from Lord Arthur Hay's collection, is now before me. The male of *mystacalis* has however no trace of the azure patch at the bend of the wing, nor of any blue on the wings and tail, nor is the head yellowish. The female however corresponds with Mr. Blyth's description of his female *Malabaricus*. Nevertheless I shall consider them for the present distinct, till I have had an opportunity of examining other specimens. Hab. Malay countries.

5. *C. Sonneratii*, *Phyll. Mullerii* T., *Chl. Zosterops*. Jard. and Selby is fem. *Turdus viridis* Horsf. *C. gampsorhynchus* J. and S., young male. Mr. Blyth says, I know not on what authority, inhabits Southern India, and the Malay countries. I have never seen it nor heard of its having been found in Southern India.

6. *C. Hardwickii* J. and S., *C. curvirostris* Sw., *C. chrysogaster*, M. and H., *C. auriventris*, Delessert—*C. cyanopterus*, Hodgs. Hab. Nepal, Assam, &c.

I was at one time inclined to think that the figure in the P. E. 643.3 was taken from an immature male of this species.

7. *C. mystacalis*, Sw., if distinct from No. 4.*

* It is distinct, but is identified by Mr. Blyth with the next species.

8. *C. cyanopogon* T., if distinct from the last. The chief difference is that the black is described as occupying only the chin, whilst in *mystacalis* it occupies both chin and throat.—The *Meliphaga Javanica* of Horsfield is sometimes given as a synonym of *C. cochinsinensis*, but I believe of late it has been considered identical with *Turdus viridis*, and both referred to *C. Sonneratii*.

No. 73.—It appears that there are 3 species at least of *Jora*. Our southern species is *I. zeylanica*, *meliceps*, Horsf., quite distinct from *typhia* of Bengal, which again differs from *scapularis* of Malaya.

No. 74.—*Pycnonotus flavirictus* Strickl. It appears that this cannot be the *virescens* of Temminck, and some time ago I told Mr. Blyth that I intended giving this bird the specific appellation of *dumeticolus*, a name at once expressive of its habits, and a translation of its Teloogoo name, which signifies *Bush Bulbul*, but in the mean time Mr. Strickland had met with it in London, and given it the excellent name mentioned above.

No. 75. Cat.—Mr. Strickland considering this bird distinct from the *Turdus indicus* of older authors, has named it *Criniger* (the modern name for *Trichophorus*) *ictericus*.

No. 76. Cat.—The common Bulbul of the South of India is the *muscapa hæmorrhousa* of the old authors, which specific name will accordingly hold good.—It is very distinct from the *B. cafer* of Bengal, and Mr. Blyth on comparing them first called this species *pusillus*.—That gentleman has informed me of the present bird being found in Arracan, which shows a truly remarkable geographical distribution.

No. 78.—Mr. Blyth refers this bird to his new genus *Alcippe*, vide J. A. S.

No. 80.—*Pitta brachyura*—This bird will now stand as *P. superciliaris*, Wagler.

* No. 83. bis.—*Turdus nigropileus* La-fresnaye—This bird is nearly allied to, though quite distinct from, the Neilgherry black-bird—I have found it, though very rare, and only an occasional visitant, to various parts of the country, but it appears most abundant in the Malabar forest. I have obtained it myself both at Jalnah, and at Nellore, in gardens, and found it feeding on a species of helix.

Length— $9\frac{1}{2}$ —W 5—T $3\frac{3}{4}$ Tars— $1\frac{3}{4}$ —bill (front) $\frac{1}{4}$ ths.

No. 85.—This species of Thrush is now considered to be the *Turdus whitei*, but Mr. Strickland has identified it as the *T. duama* of Latham, which name will accordingly hold good.

* No. 84. bis.—*Turdus Wardii*—Jerdon, Illust. Ind. Ornith. pl. viii.

Since my account of this peculiarly marked Thrush in my Illustrations of Indian Ornithology, I have met with it at Nellore. Lord Arthur Hay also obtained a specimen at the foot of the Neilgherries. Mr. Blyth informs me that Mr. Hodgson had also sent it to the Calcutta museum under the MSS. name of *T. micropus*.—I think it is probably the *Darunga* Thrush of Latham, No. 32.

No. 86.—This species is now generally considered to be the *Pellorncum ruficeps* of Swainson. Mr. Blyth considers it to be identical with the *Cinclidia punctata* of Gould, and the *Hemipteron nepalense* of Hodgson. Mr. Strickland has also identified it with Sykes' *Megalurus ruficeps*.

No. 91.—In my Illustrations of Indian Ornithology, I have separated the species found in the Malabar forests from Col. Sykes' *Somervillei*, under the name of *Malabaricus*.

* No. 91. bis.—*Malacocircus orientalis*, new species. In the same place I have pointed out what I consider to be a new species from the jungles of the Eastern Coast of India, and given it the above name.

* No. 91. ter.—Should Sykes' species *T. Somervillei* really prove distinct from my *Malabaricus*, it will form another addition to my catalogue.

* No. 92. bis.—*Malacocircus affinis*, new species.

The peculiarities of this species and its distinction from the common *M. griseus* of the Carnatic I have also pointed out in my article on *M. griseus*, pl. xix. of my Illustrations. It is from Travancore.

No. 97.—*Oriolus kundoo* Sykes.

No. 99.—I have named and figured the peninsular representative of *O. chinensis* in my Illustrations, pl. xv., with the title of *O. Indicus*.

No. 106.—Mr. Blyth identifies Sykes' *Saxicola rubeculoides*, as the *Muscicapa leucura* of Latham and Swainson.

No. 113.—This bird has been identified by Blyth as the *Turdus arundinaceus* of Linnæus, the *Sylvia turdoides* of Temminck, and it belongs to the genus *Acrocephalus*.

No. 88. bis.—Suppl. Cat.—The doubtfully cited *Megalurus*, to which I gave the specific name of *striatus*, was obtained by Mr. Blyth at Calcutta, who rightly referred it to its proper genus *Dasyornis*, and called it *locustelloides*. The name *Sphenura* taking priority of *Dasyornis*, the bird will now stand as *Sphenura striata*.

No. 96. bis.—Suppl.—An allied species which I named in the first Supplement to my Catalogue, *Thimalia platyura*.

was at first referred by Mr. Blyth to the same group as the last, but he has since proposed for it a new genus, *Schænicola*.

*No. 113 bis.—*Phragamaticola olivacea*, Blyth, new species.

I procured at Nellore among some high reeds a species so similar in size and colouring to *Acrocephalus arundinaceus*, that without further examination I referred it to that species, and it was only on looking over my specimens of that bird, that I recognised its peculiarities. I forwarded it to Mr. Blyth, being myself doubtful where to locate it, and that gentleman has made of it a new genus to which he has given the above name, and will shortly fully describe its peculiarities. It is somewhat allied to *Sphenura*, especially in its habits, but differs in its wider and more depressed bill, and varies in other points. Its plumage, as I have before mentioned, is almost identical with that of the European Reed Thrush.

Length $7\frac{1}{2}$ to 8 inches, W. 3, T. $3\frac{1}{2}$, Tars. $1\frac{1}{2}$, Bill (front) $\frac{1}{6}$ ths.

No. 95 bis.—Suppl. Cat.—Mr. Blyth first referred my *Thimalia poivicephala* to his genus *Trichastoma*, which has since been identified by Strickland with *Malacopteron* of Eyton, but he has since, I believe, referred it to his new genus *Alcippe*.

No. 109 bis.—Suppl. Cat.—*Phænicura major*.—I am now inclined to class this bird as a *Calliope*, but Mr. Blyth proposes for it a new genus which he will shortly define.

No. 109 ter.—My *Phænicura superciliaris* was previously named by Hodgson *Larvivora cyanea*. Mr. Blyth agrees with me in considering that it comes under *Calliope*, and it will now therefore stand as *Calliope cyanea*.

No. 115.—*Orthotomus lingoo*, Sykes', is to be cancelled, being only the young of *O. Bennettii*, as has been ascertained by Strickland from Col. Sykes' own specimens.

No. 117—*Prinia gracilis*.—This name has been changed

124 bis.—*Sylvia (acrocephalus) agricola*, new species.

Descr.—Plumage above pale rufous brown—beneath whitish tinged with fulvous—Length about $5\frac{1}{2}$ inches, W. $2\frac{3}{16}$, T. $2\frac{3}{16}$, Tars. $\frac{7}{16}$, Bill (front) $\frac{1}{16}$ ths.

I found this species of warbler frequenting rice fields in the neighbourhood of Nellore during the cold weather. Mr. Blyth informs me that he has found it very abundant in reedy ground near Calcutta. It approaches somewhat the descriptions of *S. palustris* of Europe.

No. 125.—The *Sylvia trochilus* of my Catalogue has been named *Phylloscopus tristis* by Mr. Blyth, who has found it near Calcutta.

No. 126.—The doubtfully named *S. hippolais* of my Catalogue has been named *Phylloscopus lugubris* by Blyth.

No. 127.—This is probably the *M. affinis* of Tickell.

* No. 125 bis.—*Phyllopneuste occipitalis*, Blyth, new species. I sent a specimen to Mr. Blyth of a bird obtained by me at Nellore in the cold weather, very like the *P. reguloides* of that naturalist, but sufficiently distinct for him to characterize it as above.

* No. 126 bis.—*Phylloscopus nitidus*—Bl.—probably *Muscicapa nitida* of Latham and Franklin. I have also obtained this bird at Nellore.

* No. 127 bis.—*Phyllopneuste Indica*, Blyth, new species. I obtained a specimen of a warbler nearly allied, according to Mr. Blyth, to the *Sylvia hippolais* of Temminck, and which that gentleman will shortly describe under the above name. He obtained another specimen from Mr. Hodgson.

* No. 129 bis.—*Parus nuchalis*, new species—white naped Titmouse.

Descr.—A wide nuchal mark, streak from gape, cheeks, ears, sides of neck, of breast and abdomen, two external tail feathers on each side, outer barb of the next, and tip of the others, a bar on the primaries, and outer edge and tips of the

tertiaries, white—the rest of the body glossy black, except the under tail coverts, which are mixed black and white. Bill and legs black—Length about 5 inches, of wing $2\frac{1}{2}$, Tail 2, Tars. $\frac{7}{10}$, Bill (front) $\frac{1}{10}$ ths.

I obtained this interesting addition to the Fauna of Southern India from the range of Eastern Ghauts.

No. 133—*Parisoma vireoides*.—I have for some time considered this curious bird to be the *Fringilla agilis* of Tickell, but have only lately procured another specimen to forward to Mr. Blyth, and who has formed of it a new genus, *Piprisoma*, and allies it to the Dicæum group, to the slender billed, sombre coloured species of which it bears much the same relation, that the genus *Prionochilus* of Strickland does to the slender billed, gaudy coloured species of Malaisia. The synonyms of this species are as follows: *Piprisoma agilis*, *Fringilla agilis* Tickell, *Pipra squalida*, Burton—*Parisoma vireoides*, Jerdon.

Nos. 135, 136, and 136 bis—probably all belong to the same bird, which must be referred, as I first pointed out, to *Motacilla viridis*, Auct, taken from Brown's Illustr. of Zoology. It is also (says Mr. Blyth) the *M. bistrigata* of Raffles.

No. 139.—The *Mot variegata* of Vieillot was named previously by Latham *M. Indica*, and Mr. Blyth has lately created a new genus for it by the name of *Nemoricola*.

No. 140.—The white wagtail of India is *Mot. luzoniensis*, Scopoli, since named *leucopsis* by Gould, and *alboides* by Hodgson.

* No. 144 bis.—The species which I mention under the name of *fuscoventris* as having been seen, but not obtained by me at the Neilgherries, proves to be a new species, which I have named *Leucocirca pectoralis*. Vide my Illustr. Ind. Ornith. pl. ii.

Nos. 146 and 147.—The red bird is only the immature one of the white—vide Illustr. Ind. Ornith. pl. vii.

* No. 150 bis.—*Muscicapa* (*Cyornis*) *Tickelliæ* Blyth—*M. hyacinthina* T. apud Tickell.

As it is probable that most of Tickell's species will be found within the limits of my district, I shall here include such of his birds as have been authenticated, and this among the number.

No. 154 bis.—Suppl. Cat.—*M. rubecula* Sw. Mr. Blyth suggests that this may probably be the female of the preceding bird.

No. 125.—Sykes' *M. picata* is distinct from the Malayan bird, with which I had confounded it, but it will bear the prior name of *tyrannides*, Tickell. The *M. variegata* Auct. is perhaps the female of this bird.

No. 156—*Musc. Erythropygia*.—This is probably a species of *Phænicornis* (vel *Pericrocotus*) as suggested by Mr. Blyth. I find it described, and a figure of the male given by Latham, as the *Cawnpore Flycatcher*, No. 30 G. H.

No. 161.—The *Pica Sinensis* is a doubtful native of the Peninsula; I have never obtained it; and as the collection in which I saw it named as from the Eastern Ghauts, included specimens from other parts of the country, I shall in future exclude it from the Peninsular Fauna.

No. 166.—This bird described under the name of *Pastor Malabaricus* in my Catalogue being considered new, I gave a figure of it in my Illustrations under the name of *P. Blythii*.

* No. 166 bis.—*P. Malabaricus* verus.—The gray headed Myna alluded to in my account of the last bird, as a cold weather visitant to the peninsula, is now considered to be the real *Malabaricus*. It is abundant in Bengal.

No. 168.—The hill Myna of Southern India is quite distinct from that of Bengal, which again differs much from that of Malayana. Mr. Blyth who had only seen the two forms, considered the Bengal one as true *religiosa*, vel *Javanus* Cuv., and

the one from S. India as *Indica*, (*Eulabus Indicus* Cur.) In Lord Arthur Hay's collection are specimens of each, and he names the Southern one *religiosa*, the Bengal one *Indica*, and the Malayan one *Javanus*, to avoid the inconvenience of a new name, but I imagine if any of the three species require a new name it will be that of Southern India, and I would suggest the name of *G. minor*.

No. 169.—It is probable that our common weaver bird differs from the *E. Philippensis*, and Mr. Blyth has suggested for it the name of *E. Baya*.

No. 170.—The Brahminee Baya, which I referred in my Catalogue to *E. Bengalensis*, being found distinct from that species, both of which are abundant in Bengal, gave it the name of *striatus*; but Mr. Strickland has ascertained that it is identical with the species named *Manyar* by Horsfield, whose name will therefore stand. It is also *E. flaviceps* of Swainson.

Nos. 172 and 173.—These two species will stand as *punctularia*, and *striata*, names which, I believe, I was the first to point out as prior appellations to those given by Temminck.

No. 175.—*S. cheel* (Sykes.)—This little Finch is undoubtedly the *Loxia Malabarica* of the older authors, as was pointed out by Mr. Blyth.

No. 177.—The name *flavicollis* was first given by Tickell, not by Franklin.

No. 178—*Pyrgita concolor*.—Mr. Blyth considers it possible that the *Emberiza olivacea* of Tickell may refer to this bird, which I have never again met with.

* No. 179 bis.—*Emberiza icterica* Eversm. apud Gray—*E. luteola*, Lath., apud Blyth—*E. guddak* Buch Ham.

This handsome species of Bunting, which I learn from Mr. Blyth has been figured by Gray, is. I find on reference to Mr.

Elliot's notes, the species named *Gundum* by him, which I had confounded with the *E. melanocephala*, so abundant in the north of the Deccan, and there called *Gundum*. I have procured this bird from the Cuddapah district during the cold weather, and Mr. Blyth has obtained it from Central India. Mr. Elliot too found it abundant in Dharwar; but it appears to be very locally distributed, for I never myself obtained, or saw it, that I am aware of, among the thousands of *E. melanocephala* that yearly visit the corn fields about Jaulnah.

No. 180—*E. ortolana* Sykes' Cat.—I have not myself obtained this as yet, nor has Mr. Blyth, but he has seen a drawing of Buchanan's of an allied species, which he has named *E. Buchanani*.

No. 181—*E. cia*.—The doubtfully cited *cia* of my Catalogue is referred to *Emberiza fucata* Pallas, *E. lesbia* of Temminck; not of other authors.

Nos. 182 and 183—*E. cristata*, and *E. subcristata*.—These are but male and female of the same bird, which is now named *E. (Melophus) Lathamii* Gray. It is also the *E. nipalensis* of Hodgson, and the *E. erythroptera* of Jardine and Selby. The bird named by Buffon, Le Moineau de Macao, figured Pl. Enl. 224, 1, appears to me to be the same bird, and if so it will bear the prior, but certainly inappropriate, name of *melanictera* Vieillot.

No. 185—*Alauda Chendoola*.—The Aggun of South India referred by me from a living specimen to Franklin's *chendoola*, is, I find on procuring specimens, a species of *Mirafra*, which I have called *cantillans*, under which name Mr. Blyth has described it in the Journal of the Asiatic Society, vol. 13, p. 960. It appears very locally distributed, but Mr. Blyth has obtained it near Calcutta.

No. 186—*Alauda deva*—Sykes.—The *Chandool* of South-

I have procured several specimens of this Titlark in the neighbourhood of Nellore. Mr. Blyth obtained his specimen from Darjeeling.

No. 193 bis.—This species must be cancelled, it being identical with my *Pellorneum*, No. 86, as previously indicated.

No. 195.—This is now the *Erythrospiza erythrina* (Pall.), the name *rosea* of Vieillot being preoccupied, and L. Bonaparte's generic name being prior to *Hæmorrhous* of Swainson.

No. 197.—This the common Hornbill of Malabar must stand as *Buceros pica*, Scopoli,—whose names precede those of Latham. It is distinct from the Bengal bird, *B. albirostris*.

No. 198.—This species will stand now as *Buceros birostris* Scop.

* No. 205 bis.—*P. ceylonus* Forst. *P. neglectus*, Wagler.

Lord Arthur Hay brought from Ceylon a single specimen of this Woodpecker, which, it is highly probable, will be yet found in the southernmost portions of the peninsula.

No. 206—*P. (Hemicercus) cordatus*.—Mr. Blyth appears to think that the *Picus Canente* of Lesson is identical with my bird. A figure will appear in my Illustrations No. 3. Mr. Blyth has obtained it from Arracan.

No. 208—*P. Elliotti*.—Some time ago a pair, male and female, of a fine Woodpecker were sent to me by Lord Arthur Hay, which had been identified by Mr. Elliot, as the one described by me from his notes. The male has the crest fine red—but the description of the female was accurate enough when the punctuation is corrected; for it should be read “Cheeks black; spot from the eye,” &c.—on seeing these birds I at once recognised a Woodpecker described by Mr. Blyth as *P. (Chrysocolaptes) melanotus*. On my arrival at Madras and comparing the descriptions of Latham and Shaw, together with the figure in Shaw copied from the Pl. Enl., I at once saw that this was the Goa Woodpecker of old authors, *P. Goensis*—and it will accordingly stand as *Chryso-*

colaptus Goensis. Wagler of course is in error in putting it as a synonym of *P. strictus*. I have of late obtained it at Nellore, inhabiting the densest portions of the jungles of the Eastern Ghauts.—Length 12 inches, W. 6, T. $3\frac{1}{2}$, Bill (front) 2, Tars. 1.

No. 209.—*P. (Dendrocopus) Hardwicki*—new species—*P. moluccensis* apud Gray and Hardwicke—Jerdon—Blyth, &c.—On comparing specimens from Southern India with the original figure in P. E. pl. 748, 2, and finding moreover that there are several allied species in India much more like this Molucca bird, I am compelled to rename this species, and have accordingly named it after one of the most successful cultivators of Indian Zoology. It appears to be the Cawnpore Woodpecker, Latham, No. 19—the variety A. of his *P. moluccensis* being one of the allied Indian species.

No. 209 bis.—*P. (Dendrocopus) nanus* Vigors.

The dark variety alluded to in my catalogue was identified by me with a specimen of *P. nanus* from central India.

No. 210—*P. squamatus*.—The Himalayan Woodpecker figured by Gould is a much larger species than the one found in Southern India, which Mr. Blyth has named *P. striolatus*, J. A. S. vol. xii. p. 1000, where he also points out, that I have indicated another allied species which he has procured from Assam and named *viridanus*. Those that answer to his *P. striolatus*, I have obtained from the Malabar Coast, and the forests of the Eastern Ghauts.

* No. 210 bis.—*P. (Gecinus) viridanus* Blyth—l. c.—Mr. Blyth subsequently, J. A. S. page 191, says, *P. viridanus* would seem to be *P. dimidiatus* of the Dict. class, though not of Gray and Hardwicke.

No. 211—*P. Mentalis*.—The bird doubtfully referred by me to *P. mentalis* was considered by Mr. Blyth to be the *P. nepalensis* figured in Gray and Hardwicke, and he has since referred it to *P. chloropus* of the Dict. class, evidently

the same bird as the *P. chlorolophus* of Vieillot, Encycl. Meth., which name I presume will stand for the Bengal bird. This however differs so considerably from the allied species of Southern India, that I have no hesitation in considering them distinct—and accordingly bestow on our southern bird the appellation of *chorigaster*. It differs from the Nepal bird in smaller size, less developed crest, darker abdomen, and various other points which I shall particularize in my Illustrations, for which I have prepared a figure of our southern bird.

* No. 212 bis.—*P. (Brachypternus) micropus* Blyth J. A. S.—vol. 14—194.—I procured a specimen, among a lot of *P. bengalensis*, which appeared to me to be smaller in all its proportions than that species, and sent it to Mr. Blyth, who has named it as above. It was obtained in the jungles of the Eastern Ghauts.

No. 214—*P. badius*.—Mr. Blyth has quite recently (J. A. S. 14. 195) separated the rufous Woodpecker obtained in the north of India from the nearly allied Malayan bird, by the name of *P. (micropternus) phaiiceps*. I am not very certain if the South Indian bird be identical or not with this, as I have too few specimens for comparison, but it appears to differ in the colour of the chin and throat, which, instead of being rufous edged with paler, is of a dark olive brown, edged with white. It is also somewhat smaller. Should it prove distinct on further examination, I would suggest the name of *P. (micropternus) gularis*.

No. 215—*P. tiga*.—Mr. Blyth considers a specimen I sent of this bird to be the *P. shorii*, as I had suggested in my catalogue—but the smaller specimens alluded to are probably the real *P. tiga*, or it may be Blyth's *P. intermedius*.

* No. 215 bis.—*P. shorii*—Vigors.

No. 217—*Bucco viridis*.—The true *B. viridis*, as I find on reference to the figure in Pl. Enl. pl. 870, is the bird found

on the Neilgherries, and occasionally in other parts of the Malabar Coast.

* No. 217 bis.—*Bucco zeylanicus*—Lath.—*B. lineatus*, Tickell—*B. caniceps* Franklin—*B. viridis* Jerdon Cat., in part.—This large Bucco is found in all the jungles of India, as well on the East as on the West Coast. I have specimens from Malabar, and the Eastern Ghauts—and have seen others from Goomsoor, and Bengal. The individuals appear to differ somewhat in the form of the bill—but this is not sufficient, I imagine, to form grounds for their separation—as specifically distinct.

Length $10\frac{1}{2}$ inches, W. 5, T. $3\frac{1}{2}$, Bill (front) $1\frac{2}{10}$, Tars. $1\frac{2}{10}$ ths.

* No. 216 bis.—*Bucco barbiculus*—Cuv.—A small species obtained by Lord A. Hay from the jungles of Malabar, and of which I had no description, was thus named by Mr. Blyth, to whom I sent a specimen for examination.

Length 6 inches, W. $3\frac{2}{10}$, T. $1\frac{1}{2}$, Bill (front) $\frac{1}{10}$ ths.

It differs chiefly from *B. Indicus* in the red of the fore part of the head not reaching so far back, and in having all the parts that are yellow in *Indicus*, bright red; also in wanting the striated lower plumage.

No. 222.—*Cuculus fugax*.—I think that this the common species of India should be named *Cuculus Lathamii*, the name given to the adult bird in Gray and Hardwicke's Illustrations; I have not seen, nor heard of its having been obtained from any of the Malay countries, and a species in Lord Arthur Hay's collection from Malacca, appears to correspond with Horsfield's description.

* No. 222 bis.—*Cuculus micropterus* Gould.—I have obtained this Cuckoo of late, once in the Carnatic near Nellore. It also probably occurs in the West Coast, but it is certainly rare in the South of India.

No. 223.—*Cuculus himalayanus*.—Mr. Blyth has referred a specimen sent him of this bird to the *Cuculus sonneratii*.

Latham, with which he also identifies Horsfield's *pravata*—but I possess a specimen from Malacca very distinct from our peninsular bird, which is probably that species. As this is a rare bird, and only found in the West Coast, I think it not improbable that it may prove distinct from the species taken by Sonnerat, and in that case I would suggest the name of *Cuculus venustus*.

* No. 223 bis.—*Cuculus poliocephalus*, Lath. *C. himalayanus*, Vigors.

I obtained a single example of this Cuckoo in the cold weather, near Nellore.

No. 224 *Cuc. flavus*.—The synonyms I adopted with doubt do not apply to this bird, and the Malayan specimens referred to this bird (of which however *C. merulinus* Scopoli, is a prior name) being usually smaller, and in rather different plumage; the name at present adopted for this Cuckoo is that of *C. tenuirostris*, applied to the young bird in Gray and Hardwicke.

* No. 225 bis.—*Cuculus (Chrysococcyx) lucidus*.—On obtaining access to Brown's Illustrations of Zoology, and carefully examining his birds, I at once recognised his figure of *Trogon maculatus* as an immature bird of this species. It was stated to have been found in Ceylon, and if so, is very probably a rare inhabitant of the forests of the West Coast. It has been procured by Mr. Blyth from central India.

No. 228—*Eudynamys orientalis*.—I think it probable that the *Cuculus honoratus* of authors figured in Pl. Enl. pl. 294, is merely the young of this bird.

* No. 229 bis.—*Zanclostomus tristis*, (Lesson) *longicaudatus*, Blyth.—This Cuckoo has been obtained from the jungles of Goomsoor.

No. 230—*Zanclostomus sirkee*.—Mr. Blyth has recently procured two additional closely allied species to the one found in Southern India, one of which from central India, he considers to be the true *sirkee*, and mine he concludes to be

the *Taccocua Leschenaulti* of Lesson, whose generic name, though not very euphonous, will stand for this division, which is very separable from *Zanclostomus*, partaking more of the habits of *Centropus*, feeding a good deal on the ground.

No. 231 bis. Suppl. Cat.—*Centropus bengalensis*.—As I have lately obtained a specimen of *Centropus lepidus* from the Eastern Ghauts, I am inclined to believe that it was this species that was observed by Mr. Elliot in the Southern Mahratta country.

No. 233.—*Cinnyris polita*.—It appears that the name of *Lotenice*—L., must stand for this Honeysucker, as it was originally given by Linnæus to a bird from Ceylon, and was afterwards misapplied to an African, or Madagascar species, somewhat allied in colouring.

No. 236.—*Cinn rigorsii*.—This handsome species is *C. goalpariensis*, Royle—*C. miles*, Hodgson—and *Nectarinia Seherice* of Tickell.

No. 236 bis. Suppl. Cat.—*C. longirostris*.—This is the *inornata* of Temminck, now referred to *arachnothera*.

* No. 237 bis.—*Dicæum erythrorhynchos*, Latham, *D. Tickelliæ*, Blyth.—I obtained a specimen of this little species from Malabar through the kindness of my friend Mr. Ward.

No. 238.—*Upupa minor*.—Mr. Blyth considers the lesser Hoopoe of Southern India to be identical with the West African species named *Senegalensis* by Swainson—and distinct from *minor* of S. Africa.

* No. 238 bis.—*Upupa Epops*.—The European Hoopoe, common in Bengal, is also occasionally found here. I obtained it on the Neilgherries only.

No. 240.—*Merops Philippinus*.—On comparing the figure in the Pl. Enl., I think that our large Bee-eater is not the one there represented, and a Malacca specimen in Lord A. Hay's collection agrees much better with the figure—*Merops*

Javanicus is identified with *Philippinus*—our Indian bird is certainly the Chesnut throated Bee-eater, Latham.

No. 245.—On comparing Malay specimens of *Halcyon capensis* with those of Southern India, a very perceptible difference is at once observed, and, as the former agree exactly with the figure and description in the Pl. Enl., which I had previously been unable to identify with our peninsular bird, I shall now give this the name of *Halcyon bruniceps*. Mr. Blyth (J. A. S. vol. 14) has also recently pointed out the distinctions—which are, the unvarying brown tint of head and hind neck in our Indian bird—to which I may add, that the blue colour of the wings and tail is much deeper in the Malay bird. It is evidently the variety mentioned by Latham, who considered it distinct, as well as his var. D. of the black-capped Kingfisher, No. 27.

* No. 245 bis.—*Halcyon atricapillus*.—This fine Kingfisher must be added to our peninsular Fauna, as I have obtained specimens from the West Coast.

No. 246.—This little Kingfisher will stand, I consider, as *C. tridactyla*. Vide my Illust. Ind. Ornith. pl. 25.

No. 248 bis.—*Ispida rudis*.—As the African and Indian birds are now considered distinct, and as this name was applied to the African bird, Strickland has called the Indian one *Ispida varia*.

No. 253—*Caprimulgus Mahrattensis*.—Mr. Blyth considers that a fine night jar which I lately obtained from the Eastern Ghauts, and which was referred to by me in my Illustrations pl. 24, as probably *C. macrourus* Horsf., will turn out to be Sykes' *Mahrattensis*—and that the true *Macrourus* is a very closely allied species which he lately obtained from Arracan.

* No. 253 bis.—*Podargus Javancensis*.—I received from Captain Roberts of the 36th N. I., an excellent observer, a very accurate account of this bird, which he obtained at the Peria pass, leading from Malabar into the Wynaad.

* No. 255 bis.—*Cypselus leuconyx*—Blyth J. A. S. vol. 14.—I procured this Swift in the Deccan, and have also obtained it from Malabar.

* No. 255 ter.—*Cypselus montanus*—new species.—I must consider this little Swift as distinct from *affinis*, though Mr. Blyth (J. A. S.) only looks on it as a young bird—and I hope to obtain more specimens for comparison. It differs chiefly in its smaller dimensions, but on comparing it with true *affinis*, various differences appear in the shade of colour, especially in that of the head and neck. It inhabits cliffs on the Neilgherries.

L. $4\frac{3}{10}$, W. $4\frac{8}{10}$, T. $1\frac{7}{10}$.

No. 257 bis. Suppl. Cat.—This is the *Chætura gigantea* (Tem.) found also in various parts of the Malay provinces. An allied species the *Ch. Macraptera*, Swains., vel *nudipes*, Hodgson, is found in the Himalayas.

No. 259—*Hirundo erythropygia*, Sykes.—This is the *H. daurica* of Authors.

No. 261 bis. Suppl. Cat.—*H. domicola*.—Mr. Blyth informs me that this is identical with *H. javanica*,—*neoxena*, Gould, and that it is figured in Gould's Bird of Australia.*

No. 261—*H. unicolor*.—This species since referred by me to the Swifts, and called *C. concolor* by Blyth (there being already a *C. unicolor*) has been quite recently referred by that naturalist to the group *Colocalia*, the type of which is the *H. esculenta* of the Malay provinces. This is very interesting, as, if its nests can be discovered on the precipitous cliffs near which it is seen, they will probably be found similar to those of its far-famed congener.

No. 263 bis. Suppl. Cat.—*H. inornata*.—This Swallow turns out to be the *H. rupestris* of the South of Europe. It was also named by Hodgson *H. rupicola*.

(To be continued.)

* Mr. B. has more recently informed me that *H. jewan* is referred to *Javanica*, and *domicola* to *pacifica*, Lath.

XII.—*Descriptions of some supposed New, or Imperfectly Described, Species of Birds.*

By LORD ARTHUR HAY,

A. D. C. to the Marquis of Tweeddale.

Nisætus albo-niger,—Bl. young ?

From Malacca, and perfectly distinct from any of the other species of the group, though approaching nearest to *N. Cristatellus* in the young plumage, being however much smaller.

This bird has the head crested as in *N. Cristatellus*; the feathers forming the crest being black, slightly edged with dirty white at the tips; all the under parts white washed with light fulvous, darkest on the flanks, and thigh coverts; upper parts brown, lightest on the head, two middle tail feathers similarly brown with three distinct broad black transverse bars, and a fainter one near the base of the tail; the outer rectrices lighter on their inner webs, and all the feathers edged with dirty white at the tips; under surface of the tail light, the black bands being seen distinctly only through the two middle and the two outer tail feathers. Primaries deep brown; outer webs of the first black; wings graduated; first quill $\frac{3}{4}$ ths the length of the second, which is shorter than the third, while the fourth and fifth are nearly equal, though the fifth is longest; the under side of the wing is white near the flanks and shoulders, while the lower part is barred with black. The tarsus is closely feathered to the base of the toes. The whole form is strictly that of a *Nisætus*.

DIMENSIONS.

Wings.. . . .	11 inches.	Middle toe.....	$1\frac{1}{10}$ inches.
Tail.....	10 „	Bill from gape...	$1\frac{5}{10}$ „
Tarsus.....	$3\frac{2}{10}$ „	„ base...	1 „
Hallux... ..	$1\frac{3}{10}$ „		

If my bird should on comparison be found distinct from *albo-niger*, I propose the name *Malayanus*.

Buteo (Butaster) fasciatus—New Species.

An interesting raptorial bird seemingly belonging to the group *Butaster*,* Hodgson, was sent to me from Malacca, and which I now describe as probably new, under the provisional name of *fasciatus*. Plumage above deep smoky brown; lores brown cinereous, and so distinct in hue from the surrounding feathers as to be readily remarked. A white superciliary stripe commences over the middle of the ears, a few of the feathers springing from the nostrils having white shafts and centres. The throat and chin are white, a black stripe extending longitudinally from the chin down the middle of the throat; a parallel black stroke bounds the white on each side; the upper part of the breast is of a uniform brown, but the lower part, the belly and flanks, thigh coverts and vent, have each of their respective feathers alternately and transversely banded with light brown and white, presenting a fasciated appearance; the shafts of these feathers are deep brown and preserve a uniform colour even when passing through the white. The upper tail coverts are of a similar hue with the rest of the upper parts, though some of them in my specimen are broadly tipped with white. The tail is smoky brown, broadly barred with three distinct transverse black bands, and one much fainter near the base; the shafts of the tail feathers are light or dark as they pass through either the light or dark parts of the tail. The under shoulder coverts are marked with light rufous brown upon a white ground, the under basal half of the wings is white, the tips of the primaries are black, while the quills are crossed by two or three straggling dark bands. The first quill is two-thirds the length of the wing, and much shorter than the second, which is a little shorter than the fifth, the third and fourth being equal and longest. The bill is black with the gape and basal half of the lower mandible dirty yellow in the dried

* Now *Poliornis*.

skin ; the tarsus is feathered a little beyond the knee and covered by octagonal scales.

DIMENSIONS.

Total length .11½ inches.	Hallux	1 ¹ / ₁₀ inches.
Wing 13 „	Bill from base . .	1 ¹ / ₁₀ „
Tarsus 2 ⁷ / ₁₀ „	„ gape . .	1 ⁴ / ₁₀ „
Middle toe 1 ⁵ / ₁₀ „	Tail	8 „

Scops Malayanus—New Species.

It was not till after the strictest comparison had been drawn between this species and the *S. Aldrovandi* of Europe that I ventured to consider it as distinct. The grounds upon which I have separated the two species are these. First, the total absence of gray perceived in the plumage of *S. Aldrovandi*; secondly, the superior strength of bill and length of tarsus of that bird; thirdly, the distinct manner in which the under surface of the primaries are mottled, these differences I consider to be sufficient to warrant their separation, particularly as two species from Africa, *S. Capensis* and *S. Senegalensis* have been described and acknowledged as distinct—and also a species from Brazil, without possessing greater distinctions.

The present species was received from Malacca.

I shall now endeavour to point out the more prominent features in the plumage of the present bird. The under surface is distinctly divided into two equal portions ; the first including the chin, throat and breast, being wood-brown mottled with a little white, light rufous, and black, irregularly distributed ; the lower division including the belly, vent, thigh coverts, and under tail coverts, is white, speckled with deep brown and light rufous.

The ground of the upper surface is ferruginous wood-brown, closely speckled with black, and purest on the upper tail coverts ; four large white spots occur on each side of the

back, which when examined will be found to form only the outer webs of the feathers, to which they belong, the inner webs being like the rest of the dorsal plumage; each of these feathers is tipped with black; a little white occurs over each eye, and the cheeks are minutely speckled with white; the ears are bright rufous at the base, but resemble the dorsal plumage at the tips; the bristles which spring from the chin and nostrils are dirty white; the first quill has five rufous spots on its outer web, the second also has five spots, but the two nearest the tip only are rufous, the others being white; the spots on the three next quills are white, and those on the sixth are entirely rufous; the inner webs in *S. Aldrovandi* are barred, but these bars are wanting in the Malay *Scops*, light tawny blotches breaking only the hair brown colour of the quills; the tips of the quills however are faintly and minutely speckled; the third and fourth quills are equal and longest, the second and fifth are equal, and the first is shorter than any; the upper surface being but faintly barred, and hair brown.

The upper mandible of the bill is black, the under dirty yellow; in shape it closely resembles *S. Aldrovandi*, but is neither so high, nor so strong; the tarsus is not feathered as far down as in the European bird, the whole leg and foot is weaker, and the entire bird is smaller.

DIMENSIONS.

Wing.....	5 $\frac{1}{10}$ inches.
Tarsus.....	$\frac{1}{10}$ "
Tail.....	2 $\frac{8}{10}$ "

Buceros Violaceus, Wagler.

Lower portion of the breast, belly, vent, thigh coverts, tips of the quills, and tail, excepting the two middle feathers, white, the rest of the plumage glossy green black; first and

second primaries uniform black, short, narrow, and attenuated at the ends, in a somewhat similar manner to the first quill in the genus *Ptilinopus*, as seen in *Columba (P.) jambos*; head crested as in most *Buceridæ*, that is the longest feathers rising from the nape, and growing shorter towards the vertex. The two middle tail feathers surpass slightly the rest, and show an indication to be tipped with white; these feathers are more pointed than the lateral ones, which become almost truncate in form, and slightly graduated in length; this structure is to be observed also in the following species, as well as in *B. Albirostris*, *Malabaricus*, *Gingianus*, *Gingalensis*, *Coronatus* (Africa), &c.

The form of the bill in this species is very peculiar, the true line of the culmen may be seen along its whole length; a narrow groove commences at the nostril which is placed in it, and separates in a way the main portion of the upper mandible from its casque; the culmenoid ridge of the casque for half its length is much higher than the occipital plane of the head; the casque is much swollen all its length, though most so in the middle, where, when seen from above, it is broader than the bill; its posterior portion is much narrower than the front of the head, and its anterior portion is much pinched, so as to render it almost sharp; the sides of the upper mandible are concave, and the margins of the bill are dentated, and in my specimen much worn, irregularly notched, and broken. From Malacca.

DIMENSIONS.

Total length.....	27 inches.	Bill from gape.....	$4\frac{2}{10}$ inches.
Wing.....	10 „	Gonys.....	$3\frac{3}{10}$ „
Tarsus.....	$1\frac{9}{10}$ „	True culmen.....	$2\frac{3}{10}$ „
Hallux.....	1 „	Bill from nostril in a	} $4\frac{4}{10}$ „
Culmenoid ridge..	$3\frac{2}{10}$ „	straight line.....	

Buceros Comatus, Raffles.

A specimen of what I consider to be this bird is now be-

fore me, but in case it should not be the same species, I add the following description; head, neck, throat, breast, tip of the primaries, belly and tail white—wings, back, upper and under tail coverts, vent, and thigh coverts, black; the feathers on the crown of the head are stiff, loose in the web, black at the base, with black shafts for half their length; immediately behind the nostril springs a tuft of loose stiff hairy feathers, half the length of the bill, and some of them with black shafts all their length; on the sides of the basal portion of the lower mandible, though not quite at the rictal angle, a few black bristles occur, these are so far spurious in that they show a slight tendency to run into the texture of a feather, a few scattered hairs in lieu of close webs springing from the sides of the shaft; the ciliary bristles are remarkably strong and black; the throat is thinly clothed with feathers; the crest is long and full. The white colour of the feathers is purest underneath the outermost ones which are of a tawny hue. The black colour of the ventral feathers inclines to rusty. The abdominal feathers are black for the basal half of their length.

The bill is of a dull horn colour mingled with yellowish white (in the dry state), there is no decided casque rising from the upper mandible, the highest part of its culmen being hardly higher than the occipital plane of the head; the upper mandible most bulged at the region of the nostrils, but much compressed beyond; the margins of the bill are very plainly serrated, the culmenoid crest is rounded, and not sharp, it occupies two-thirds of the true culmen, the curve of which proceeds along its base in the form of a furrow or groove, which is lost in the swelling of the bill near the nostrils. I regret not being able to detail the caudal structure, as my specimen is somewhat damaged; the claws are (as in most of the *Buceridæ*) deeply grooved on their under surface, thus making the lateral corneous sheathing quite thin and pliable. From Malacca.

DIMENSIONS.

Total length	44 inches.	Bill Nostril in a }	5 $\frac{3}{10}$ inches.
Wing	14 $\frac{1}{2}$ „	straight line . . . }	
Tarsus	2 $\frac{5}{10}$ „	Culmenoid ridge . . .	1 „
Hallux	1 $\frac{2}{10}$ „	True culmen	2 $\frac{3}{10}$ „
Bill from gape	6 $\frac{2}{10}$ „	Gonys	3 $\frac{7}{10}$ „

Buceros Malayanus, Raffles. Adult ?

The whole of the plumage glossy black, (appearing slightly green in certain lights) with the exception of the lower ends of the four outermost tail feathers, and the coronal circle, which are white—bill and feet black. Three specimens are before me, two agreeing entirely in their plumage, structure, and colouring of the bill, the other differing from them by having the bill perfectly white, and its protuberance differently shaped, as if not fully developed, and in having the white of the tips of the outer rectrices more developed; the crest also in this supposed young bird is not so large, as if it also had not arrived at maturity.

The bill without the casque in the adult bird is very similar to that of *B. carinatus*, Blyth, while that of the young bird resembles it closely, the casque not being fully developed in front, its superior margin hardly breaking the true culmen; the anterior edge of the casque in my adult bird, on the contrary, is almost perpendicular to the occipital plane of the head, while its posterior portion divides the feathers of the head, as it also does in the young bird; this posterior portion is bulged and rounded; as the casque advances on the beak, it becomes compressed, and its culmenoid ridge is so rendered quite sharp; the commissure in the old bird is toothed, as in the *Pteroglossi*, this is not so distinctly visible in the young bird; the gular region is clothed with feathers, though the parts near the edges and angles of the lower mandible are bare; this nakedness is more marked in the young bird than in the old ones. The crest has its mesial portion quite black, and the rest white; the black not being so extended posteriorly as the white.

DIMENSIONS.

Adult.

Total length.....	29 inches.	From nostril to the tip in a	
Wing.....	$11\frac{5}{10}$ "	straight line ...	4 inches.
Tarsus.....	$1\frac{9}{10}$ "	From anterior edge of protu-	
Hallux.....	$1\frac{1}{10}$ "	berance to the tip of the bill.	$2\frac{5}{10}$ "
Gonys.....	$2\frac{6}{10}$ "	From base to tip in a straight	
Bill from gape.....	$4\frac{3}{10}$ "	line.	$4\frac{5}{10}$ "
Protuberance from base. ..	3 "	Of white portion of the crest	
		from above the eye.....	$3\frac{7}{10}$ "

Young.

Total length....	28 inches.	Bill from gape....	4 inches.
Wing.....	$11\frac{5}{10}$ "	" nostril....	$3\frac{5}{10}$ "
Tarsus.....	$1\frac{1}{10}$ "	Total length from base... ..	$4\frac{5}{10}$ "
Hallux.....	$1\frac{1}{10}$ "	White portion of the crest..	3 "
Gonys.....	$2\frac{2}{10}$ "		

Buceros Elliotti—New Species.

This species resembles the last one very closely, but it is much larger, and wants the white bordered crest, otherwise the description I have given of the plumage of *B. Malayanus* will do for this one; in my only specimen, the bill has evidently arrived at maturity, and is perfectly white; the posterior portion of the casque covers a portion of the vertex, and is eight-tenths of an inch higher than the occipital plane, its posterior edge being one and seven-tenths of an inch behind the nostril when measured in a straight line; a ridge proceeds from the nostril, and marks where the true culmen would be if the casque were absent; this ridge ends where the culmen begins; two more ridges run almost parallel to it, and above it, thereby causing two corresponding furrows; a third furrow is formed by the uppermost ridge and the swell of the casque, which commences to bulge above it; a fourth ridge is thus formed, but which is much broader and more rounded than the lower ones, and is bounded along its superior edge by a fourth furrow which is the last. The casque becomes compressed as it advances on the bill, and is at last narrowed into a point, its anterior edge instead of being perpendicular with the occipital plane, forms with it (supposing the occipital plane to be continued) an obtuse angle, and consequently an acute

angle, with the true culmen; the margins of the bill are serrated, and the whole bill is a miniature resemblance of that of our common Malabar Hornbill, *B. pica*.

The first and second quills are formed similarly to those of *B. violaceus*.

DIMENSIONS.

Total length.. . .	34	inches.	True Culmen . . .	3 $\frac{1}{10}$	inches.
Wing.. . . .	13	"	Bill from gape....	5 $\frac{1}{10}$	"
Tarsus	2 $\frac{1}{10}$	"	" nostril..	5 $\frac{1}{10}$	"
Hallux.....	1 $\frac{3}{10}$	"	Gonys.....	3 $\frac{1}{10}$	"
Culmenoid ridge.	5 $\frac{2}{10}$	"			

This Hornbill would be identical with Eyton's *bicolor* if the three lateral rectrices and the tips of the rest of the tail were white (rectricibus tertiis lateralibus caudæque apicibus albis;) but as this species has got the tips only of its four lateral rectrices white, and the two middle tail feathers wholly black, it does not agree with Eyton's description.

Picus Melanogaster—New Species.

A very distinctly marked species of Woodpecker from Malacca, and apparently new; the only two specimens I possess are not in full plumage, their general colours being as follows: Back and wings when closed red maroon with a waxy gloss—europygium of a dull rusty brown, or of duller and browner tint than the back; head (as seen in my immature specimen) rusty brown, with the forehead much lighter and inclining to tawny brown; the usual Picine crest not much developed and longest at the nape, where the tips of the feathers are of a bright crimson or almost blood red, and bearing in colour and texture though not in form a somewhat similar resemblance to the tips of the secondary quills of the *Wax wings*; the whole of the under parts excepting the chin are dark olive rusty brown, almost inclining to black, and to which colour I suspect the feathers of the old birds turn; the chin and forehead are similar in

- colour ; the upper tail coverts and the rectrices are brownish black, barred with lighter bands, the middle rectrices not forming an exception ; first quill of the wing almost spurious and the outer webs of the Primaries are distinctly spotted, and their inner webs more faintly barred with a colour similar to the caudal bands. The bill is ivory white, and the feet in the dried skin black.

This bird's generic characters seem to place it near the genus *Dendrocopus*, if not in it.

DIMENSIONS.

Total length.....	8 $\frac{1}{10}$ inches.	Outer hallux.....	1 inch.
Wing	4 $\frac{1}{10}$ „	Outer toe.....	1 „
Tail.....	3 „	Bill from base.....	1 $\frac{3}{10}$ „
Tarsus.....	1 $\frac{1}{10}$ ths. „	„ gape.....	1 $\frac{1}{10}$ „

Gracula Religiosa, Linné.

Under the name of *G. religiosa*, Linné confounded two, if not more species. Cuvier subsequently separated the largest species which is found in Malasia from the continental Indian species, naming the former *Jaranus*, and the latter *Indicus*, without regard to Linné's prior name of *religiosa*, (which was applied to two species whose distinctness he allowed in his *systema naturæ*, but to which he only gave the one name above mentioned.) This is I believe generally allowed to apply to the larger or Malasian species, but on reading over attentively the notice, given by Linné in his system, of the *G. religiosa*, I find that the first bird described is evidently our Peninsular bird, as it is distinctly said that the variety No. 2 is much larger. The name *religiosa* therefore ought most certainly to be retained to the first described species, and not to the variety. I have now before me specimens of three distinct species, the first from Malacca, the second from Malabar, and the third from Northern India and Arracan ; the third species is intermediate in size between the Malacca and Malabar bird, and differs in other points also, which I will

point out. To the Malabar bird, as I said before, I would retain Linné's name of *religiosa*; to the Malacca bird, should it prove the same as the Javanese species, the name of *Javanus*; and to the third species which has not as yet been noticed as distinct, I would, to avoid confusion, give Cuvier's name of *Indicus*, and so avoid adding another name to the already overloaded list of synonyms.

As the two names *religiosa* and *Indicus* have become so mixed up that they have been applied by some to our Indian bird, and again in the opposite way by others to the Malasian bird, the following description and dimensions will perhaps serve to aid the elucidation of the species, should my previous remarks not prove satisfactory.

1st.—*G. religiosa*, Linné, Jerd. Cat. 168.

The whole of the upper plumage and the lesser shoulder coverts glossy purplish black, the metallic reflections changing to green on the lower part of the back and upper tail coverts; under plumage the same as the upper, though not so bright; under tail coverts dull black and fringed only at the ends with the glossy hues of the general plumage; this latter character indeed is possessed by all the feathers when taken singly. Wings and tail, coal black without reflections; the spurious quill is very short, and quite black; the first primary has a white mark on its inner edge only; the next six have the white marks on both sides of the shaft, but forming in the sixth (that is the seventh including the first) a roundish blotch, and not occupying the whole breadth of the inner web; the wattles on the head commence below each eye, pass beyond the ear where each forms a small flap, and then returns on to the head, so dividing the occiput and nucha into three distinct portions, which are closely clothed like the rest of the head with short velvety feathers. The legs are yellow, the bill orange, and the eyes deep brown.

Specimens in my Cabinet both from Malabar and Goomsoor agree perfectly in their colours, form, and dimensions.

2d.—*G. Javanus*, *Eulabes Javanus*, Cuvier. *G. religiosa*, Cuv. apud Horsfield, Zoological Res. In Java. *Eulabes Javanus*, Vieil.

This species is perfectly distinct from the former, and is as Linné remarks much larger; but its superior size is not its only distinction, for the form of the bill and shape of the wattles form very marked differences; in plumage, the two agree pretty closely, though perhaps the Malay bird is the brightest of the two; a large stripe of deep velvety black feathers begins just above each eye where it is narrowest, and widens as it recedes, occupying the greater portion of each side of the head, and nearly joining at the back of it; from the base of the bill, and bounded on both sides by these black lateral bands, passes the medial stripe of the feathers which clothe the remainder of the head, and which are of a purplish gloss, similar to the rest of the plumage; this stripe narrows as it recedes, its narrowest portion being where the lateral bands so nearly join; below each eye is a naked space of orange coloured skin, and quite unconnected with the large wattles that occur at the back of the head, and which commence from behind each eye, occupying but a very narrow space at first, and then suddenly widening into two broad four cornered flaps.

The distribution of the white on the *Primaries* and the colour of the bill and legs is as in the former species. The bill, though preserving a similar structure, is twice the height. This species is I believe found in all Malasia, though my specimens were received only from Malacca.

3d.—The species to which I would retain Cuvier's name of *Indicus* is intermediate between the first and second; the bill is rather larger than that of our Peninsular species, but the wattles partake in form of both the former species; in the manner that they are placed below the eye, they resemble those in *G. religiosa*, while from their not returning on to the occiput, they bear some affinity to *G. Javanus*; the black

lateral bands hardly observed in *G. religiosa*, and so marked in *G. Javanus*, occur in this species only before and behind the eye but not over it; thus causing a hiatus which is replaced by the proper feathers of the head; in size the *G. Javanus* is the largest, and the Peninsular species the smallest, while the only distinction in the general plumage of this species, and which is perhaps merely the effect of age, is, that the primaries and secondaries are edged with rusty brown, thus almost forming a band across the wing.

I shall now add the dimensions of all three species.

The Peninsular Species. <i>G. Religiosa</i> , Linné.		Malay Species. <i>G. Javanus</i> , Cuvier.	Northern Indian Species. <i>G. Indicus</i> .
Total length.....	$8\frac{3}{10}$	10	$9\frac{4}{10}$
Wing.....	$5\frac{3}{10}$	$6\frac{9}{10}$	$6\frac{4}{10}$
Tarsus.....	$1\frac{1}{10}$	$1\frac{2}{10}$	$1\frac{2}{10}$
Middle toe.....	$1\frac{1}{10}$	$1\frac{6}{10}$	$1\frac{2}{10}$
Hallux.....	1	$1\frac{3}{10}$	$\frac{9}{10}$
Tail.....	$2\frac{3}{10}$	$3\frac{8}{10}$	$3\frac{7}{10}$
Bill from base ...	1	$1\frac{2}{10}$	$1\frac{1}{10}$
,, from the			$1\frac{3}{10}$
rectal angle	$1\frac{3}{10}$	$1\frac{1}{10}$	$1\frac{3}{10}$

The difficulty attending the description of species so apparently similar and yet differing so materially in particulars, will I trust plead some excuse for any faultiness in the above remarks; should Cuvier's name of *Indicus* be found to apply to our common species, or to the Malay bird, I would propose that of *intermedius* for the species I have provisionally retained to *G. Indicus*.

The outline of the bill given in Swainson's synopsis agrees with our Peninsular species, and is evidently meant to represent that of Linné's *G. religiosa*.

Ceblepyris Culminatus—New Species.

I received this species from Malacca, and it seems to differ from any that have as yet been described. General cast of the plumage iron-gray, uniform on the head, back of the neck and black under parts, and upper tail coverts, lighter, speckled and striated with white; a black mark from the base of the

bill to the eye. Primaries slightly edged with white, secondaries, more so; under surface of the wings uniform hair brown without white, two middle tail feathers cinerous brown, tipped with white,—Bill moderate, not compressed, and high. Bill and feet black.

DIMENSIONS.

Total length...	$6\frac{7}{10}$ inches.	Tarsus.....	$7\frac{1}{2}$ inches.
Wing...	$3\frac{7}{10}$ "	Bill from base...	$1\frac{6}{10}$ "
Tail...	$3\frac{3}{10}$ "	„ gape...	$1\frac{8}{10}$ "

Muscicapa Bella—New Species.

General dorsal aspect cobalt blue, the head and shoulders of a lighter and more brilliant tint; the blue on the back of the neck changing in some lights almost to violet; chin, throat, cheeks, and breast dull blue-black; lower part of the breast, the belly, vent, and under tail coverts pure white; flanks dusky, wings hair brown beneath, under shoulder coverts light blue; spurious quill very short and dark without any blue on the outer edge, all the primaries excepting the first, edged with blue on the external webs of the feathers, but not reaching to the tips of the three first, so that when the wings are closed it appears blue, excepting at the ends.

The tail, which is moderate, has only the two middle feathers wholly blue on the upper surface; the remainder being so on their outer webs; the under surface of the tail is deep black; the bill and feet are black. In form the bill resembles that of *M. Cærulea*, Vieil, though it is rather thicker and more robust. From Hong-kong.

DIMENSIONS.

Total length ...	$6\frac{3}{10}$ inches.	Middle toe.....	$1\frac{1}{10}$ inches.
Wing	$3\frac{3}{10}$ "	Hallux.....	$1\frac{4}{10}$ "
Tail.	$2\frac{9}{10}$ "	Bill from base...	$1\frac{4}{10}$ "
Tarsus.. ...	$1\frac{6}{10}$ "		

Phœnicornis ? Aureopygia—New Species.

This little bird does not strictly belong to the genus *Phœni-*

cornis, and it is with doubt therefore that I refer it to the group ; the distribution of its colours show however a decided affinity to *P. peregrinus*, and in other respects it seems nearly allied to it.

The plumage is of a silky texture, and puffy upon the rump, where it is of a rich golden yellow, and of a lighter hue than the feathers of the throat and upper part of the breast which are deep orange ; the lower part of the breast and the belly are rich lemon yellow ; the flanks are dusky and the under tail coverts and scapulars pure white ; an orange coloured streak commences at the base of the upper mandible and passes round the eye to the ears ; the remainder of the plumage is dull black. From Hong-kong.

DIMENSIONS.

Total length....	$4\frac{3}{10}$ inches.	Tarsus.....	$\frac{6}{10}$ inches.
Wing.....	$2\frac{1}{10}$ „	Middle toe.....	$\frac{6}{10}$ „
Tail.....	2 „	Hallux.....	$\frac{3}{10}$ „

Muscipeta atrocaudata, Eyton?

Cat. of Malay Birds, Pro. Zool. S.

A lovely species of *Muscipeta* now before me and shot near Hong-kong, seems nearly to agree with Eyton's description of the above named bird ; but as his description is very short, and is taken from a Malay specimen, I take this opportunity of fully describing my specimen, which is evidently an adult. Head, cheeks, throat, breast and tail coal black without reflections ; belly and under tail coverts pure white ; flanks dusky ; back, shoulder and wing coverts, deep glossy maroon purple, inclining to black on the upper tail coverts. Primaries black ; secondaries edged with the same colour as the back ; bill and legs black, the head ornamented with a long black crest. As there are some discrepancies between my specimen and Mr. Eyton's short description, I add the latter. "Toto corpore purpureo-atro, sed pectore imo abdomineque alba."

It will be seen that the expression "toto corpore purpureo-atro" does not altogether apply to my specimen, and as mine is from Hong-kong, it may probably be a new species, in which case I beg to propose the specific name of *elegans*.

DIMENSIONS.

Wing.	$3\frac{5}{10}$ inches.	Body of tail	4 inches.
Tarsus.	$\frac{6}{10}$ "	Bill from gape.	$9\frac{1}{4}$ "
Hallux.	$\frac{5}{10}$ "	" base.	$\frac{7}{10}$ "
Middle toe	$\frac{5}{10}$ "		

The two middle tail feathers exceed the body of the tail by 7 inches and 7-10ths.

Genus *Brachypus*, Sw. Sub-Genus *Hæmatornis*, Sw.

Hæmatornis atricapilla, Vieil. Chinese Bulbul.

I received this interesting species from Amoy, and have no doubts in referring it at once to Swainson's sub-genus *Hæmatornis*, and as one of the most typical forms.

The head is black and sub crested; the chin and base of the lower mandible the same as the wings, which are of a light hair brown, deepest upon the quills; the tail and back are of the same tints, the feathers of the back being deepest in colour towards the shafts; the lower end of the tail feathers is the darkest; all except the middle pair are broadly tipped with white, most marked on the under side; the cheeks, throat, breast, belly, flanks, upper tail coverts, and thigh coverts are of a uniform dirty white; the under tail coverts scarlet.

The bill is black, distinctly notched, and is strictly that of a *Hæmatornis*, at the gape there are but few bristles;—the wings are moderate, the first quill is very short, half the length of second, the third, fourth, and fifth, are graduated, the latter longest; the legs are black and feathered below the knees, the tarsus short and strong;—the anterior scales simple, the lateral toes are equal, the middle toe is shorter than the tarsus,—the claws are compressed and pointed, the tail is more or less square, and consists of twelve feathers.

Caprimulgus Pulcher—New Species.

The Beautiful Goat Sucker.

I received this splendid Goat Sucker from Malacca, and having failed in finding a description at all approaching to it, hesitate not in describing it as new.

Black and deep brown predominate throughout its plumage, though markings of tawny yellow mingled with light brown are perceived on the belly and breast; the usual white mark on the throat is seen in this nightjar, but no other white markings are to be found in its plumage: the head is of the richest speckled brown, with a black streak down the middle; the chin and upper part of the breast are mottled richly with black and brown, the breast is barred transversely with black and rich fulvous, each feather being black at the base, then fulvous, and then a slight edging of black. On the belly, flanks, and under tail-coverts, light tawny predominates, the black edgings being narrow; the wing coverts are of the same rich mottled brown seen on the head; the primaries are coal black, with rufous spots on their outer webs; on the second quill eight of these spots occur, as also upon the third. On the under side of the wing the same spots are visible though fainter; the second quill is longest; the tail is also deep black slightly variegated with brown; the tail surpasses the wings by one inch and three-tenths. The bill is very small, and the tarsus as in *Caprimulgus*.

DIMENSIONS.

Total length.....	10 inches.
Wings from shoulder.....	8 "
Tail.....	5 $\frac{6}{10}$ "

Muscicapa Pectoralis—New Species.

It is with doubt that I refer this lovely species to the restricted genus *Muscicapa*, and yet its large size is perhaps the only objection to its being so classed.

Both the male and female birds were sent to me from Malacca, and after a diligent search amongst various Authors, no mention can be found of them, and so I now describe them as new.

The male and female birds agree in the general tone of the plumage, which is of a dark indigo blue, the points of difference between them being the rich claret coloured breast, black throat, cheeks, superciliary stripe, and forehead, of the male ; while in the female the whole plumage is uniform blue, though perhaps darker on the throat and breast ; the dorsal plumage is soft, long and puffy, and when ruffled shows white at the base of the feathers, as do also the feathers on the flanks ; the male bird is slightly larger than the female ; the wings are moderate and slightly rounded, the fifth quill is longest, the others graduated, the tail moderate and even ; the tarsus is short and weak ; the inner toe is shorter than the outer, and the inner and outer claws are remarkably short. The bill is Musicapine, and resembles that of *Chaptia Aeneus*, though more depressed ; the upper mandible is distinctly notched, and the rictal bristles are strong, and numerous ; the bill only commences to be compressed near the end ; the base of the bill is thickly set with short stiff feathers.

DIMENSIONS.

Total length	7 inches.	Wing from shoulder. $3\frac{1}{10}$ inches.
Bill from base	$6\frac{1}{2}$ „	Tail $3\frac{5}{10}$ „
	$\frac{1}{10}$	Tarsus $\frac{7}{10}$ „

Muscicapa Zanthopygia—New Species.

As this species seems to be undescribed, I add the following description.

Head, cheeks, lesser shoulder coverts, back, and the upper tail-coverts, olive green, rump saffron yellow. Chin, throat, belly, flanks, and under tail-coverts light straw yellow, mixed with olive on the breast and flanks, inclining almost to white on the under tail-coverts—primaries and tail hair brown—

scapulars the same edged with white—secondaries tipped with white—the upper mandible deep brown—the under yellowish at the base—feet plumbeous, first quill spurious, third and fourth nearly equal, third longest.*

The bill is intermediate between that of a *Muscicapa* and *Saxicola*—the rectal bristles are few and weak—the tarsus is lengthened, and longer than the hallux—the middle toe is long—the inner toe slightly shorter than the outer, the claws are much curved. From Malacca.

DIMENSIONS.

Total length.	$4\frac{9}{10}$ inches.		Tail.	$1\frac{2}{10}$ inch.
Bill from base. . . .	$\frac{1}{10}$ „		Tarsus.	$\frac{1}{10}$ „
Wing from shoulder. .	$2\frac{7}{10}$ „			

Turdinus ? Superciliaris—New Species.

This remarkable bird from Malacca seems to me to be referable to the genus *Turdinus*, though with doubt. Two specimens are now before me—one evidently the mature male, the other either the female, or young. The former has a distinct white superciliary stripe—the rump, upper tail-coverts, and tail are bright rufous, the latter tipped with a broad deep brown band; head, nape, back, chin, throat, and breast, dark smoky black, deepest above; wings deep brown; abdomen, flanks, and under tail-coverts white washed with rufous; bill black; legs pale yellow. Length $8\frac{1}{2}$ inches, of wing $4\frac{2}{10}$, of tail $\frac{4}{10}$, tarsus 1, bill from gape, $1\frac{1}{10}$, at base $\frac{8\frac{1}{2}}{10}$.

The young bird differs in having its plumage above mixed with rufous, in being smaller, and in wanting the superciliary stripe. At first sight this curious bird gives one the idea of its being a large *phænicura*. It is, however, decidedly *meruline* in form, and if separable from *Turdinus*, I would propose

* Since writing the above, I have seen the male of this species, in the collection of Dr. Cantor at Calcutta. It differs from the female in being much more brilliant in its hues—being bright yellow where the female is dirty light yellow, and deep black where the female is merely dusky.

placing it in a new genus to which I would give the name of *Turdirostris*, and characterize it as follows :

Bill strong, high, slightly longer than the head, and much compressed—gonys ascending, commissure almost straight—culmen slightly curved—maxilla obsoletely notched, weakly hooked—nares ovate, situated in a broad shallow groove, and near the commissure, protected by thick-set, stiff feathers, and bristles. Rictal bristles very strong and defending the eye. Legs strong—tarsus moderately long, longer than the hallux. Toes moderate, inner toe shorter than the outer, middle toe equal to the tarsus, claws moderately strong, that of the middle toe bulged internally, of the hallux very strong, curved and sharp. Wings moderate, almost pointed. 1st quill short, 2d shorter than the 3d, 5th and 6th equal and longest. Tail long square, of 12 feathers.

NOTICES.

METEORIC STONE.

A large meteoric stone fell at Voolapilly in the Mundapettah division of the Rajahmundry district, on the 4th November, 1844.

Mr. Bird, Collector of the District, kindly sent the depositions taken at the time and reported to him, which in substance are as follows :

About 3 or 4 A. M. of the 4th November, a bright light was seen in the heavens by a night watcher in one of the fields near this village, accompanied at first by a loud humming sound : the light rapidly increased in intensity, and in a very few moments appeared to fall to the ground with an explosion like that of a large gun. It appeared to the observer to fall very close to him, and for some time he was so dazzled by the intensity of the light, and stupified with alarm, that he was unable to move. After a few minutes, he recovered, and endeavoured to find where it had fallen, but in vain ; though he said it was so near as to have thrown some mud and dirt on him. This, however, is easily accounted for, as the field was under cultivation. He represented that the night was clear and calm ; he was standing looking eastward at the time, and the Meteor appeared to come from the South. He described its appearance as resembling some native firework, and that the light, at first dull, afterwards

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64	Black-headed eagle	Circus	Indica
		Genus Circus.	
65	Black-headed eagle	Circus	Indica
		Genus Circus.	
66	Black-headed eagle	Circus	Indica
		Genus Circus.	
67	Black-headed eagle	Circus	Indica
		Genus Circus.	
68	Black-headed eagle	Circus	Indica
		Genus Circus.	
69	Black-headed eagle	Circus	Indica
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70	Black-headed eagle	Circus	Indica
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71	Black-headed eagle	Circus	Indica
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72	Black-headed eagle	Circus	Indica
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73	Black-headed eagle	Circus	Indica
		Genus Circus.	
74	Black-headed eagle	Circus	Indica
		Genus Circus.	
75	Black-headed eagle	Circus	Indica
		Genus Circus.	
76	Black-headed eagle	Circus	Indica
		Genus Circus.	
77	Black-headed eagle	Circus	Indica
		Genus Circus.	
78	Black-headed eagle	Circus	Indica
		Genus Circus.	
79	Black-headed eagle	Circus	Indica
		Genus Circus.	
80	Black-headed eagle	Circus	Indica
		Genus Circus.	
81	Black-headed eagle	Circus	Indica
		Genus Circus.	
82	Black-headed eagle	Circus	Indica
		Genus Circus.	
83	Black-headed eagle	Circus	Indica
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84	Black-headed eagle	Circus	Indica
		Genus Circus.	
85	Black-headed eagle	Circus	Indica
		Genus Circus.	
86	Black-headed eagle	Circus	Indica
		Genus Circus.	
87	Black-headed eagle	Circus	Indica
		Genus Circus.	
88	Black-headed eagle	Circus	Indica
		Genus Circus.	
89	Black-headed eagle	Circus	Indica
		Genus Circus.	
90	Black-headed eagle	Circus	Indica
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91	Black-headed eagle	Circus	Indica
		Genus Circus.	
92	Black-headed eagle	Circus	Indica
		Genus Circus.	
93	Black-headed eagle	Circus	Indica
		Genus Circus.	
94	Black-headed eagle	Circus	Indica
		Genus Circus.	
95	Black-headed eagle	Circus	Indica
		Genus Circus.	
96	Black-headed eagle	Circus	Indica
		Genus Circus.	
97	Black-headed eagle	Circus	Indica
		Genus Circus.	
98	Black-headed eagle	Circus	Indica
		Genus Circus.	
99	Black-headed eagle	Circus	Indica
		Genus Circus.	
100	Black-headed eagle	Circus	Indica

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CATALOGUE OF THE BIRDS OF THE PENINSULA



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